The ADVERTISERS' INDEX

A

Ajax Iron Works
Alco Products, Inc.
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
Allis, Louis, Co., The
Allsteel Products Mfg. Co., Inc., The
American Cable Co., Inc.
American Cast Iron Pipe Co.
American Iron & Machine Works Co.
American Meter Co.
American Radiator Co.
American Rolling Mill Co., The
American Sheet & Tin Plate Co.
American Steam Pump Co.
American Steel & Wire Co.
American Tank & Equipment Corp.
American Well Works, The
Anchor Post Fence Co.
Apex Regulator Co.
Armstrong Machine Works
Athey Truss Wheel Co.
Automotive Distillate Corp.
Axelson Mfg. Co., Ltd.
Ayer & Lord Tie Co.

B

Badger, E. B., & Sons Co.
Baker Oil Tools, Inc.
Barber-Greene Co.
Baroid Sales Co.
Barnsdall Refineries, Inc.
Barrett Co., The
Barrett, William M., Inc.
Bethlehem Steel Co.
Big Lake Oil Co.
Bigelow-Liptak Corp.
Bignall & Keeler Machine Works
Black, Sivalls & Bryson, Inc.
Blair, C. E.
Bradford Motor Works, Inc. 83
Brauer Machine & Supply Co.
Braun, C. F., & Co.
Brewster Co., Inc., The 1
Bridgeport Machine Co.
Bristol Co., The
Broderick & Bascom Rope Co. 4
Brown Instrument Co.
Buckeye Traction Ditcher Co.
Butler Mfg. Co.
Byers, A. M., Co. 39
Byron Jackson Co.

C

Carey, Philip, Co., The
Caterpillar Tractor Co.
Chain Belt Co.
Chaplin-Fulton Mfg. Co., The 83
Chapman Valve Mfg. Co., The
Inside Front Cover
Chicago Bridge & Iron Works
Clark Brothers
Classified Wants 62-63
Cleveland Trencher Co., The
Clifford, James E., Co.
Columbian Steel Tank
Columbus Forge & Iron Co., The
Continental Supply Co., The 8A
Cooper-Bessemer Corp., The
Corona Products, Inc.
Crane Co.

D

Darling Valve & Mfg. Co.
Dart, E. M., Mfg. Co. 87
Davey Compressor Co.
Davis Regulator Co.
Dearborn Chemical Co.
Devine, J. P., Mfg. Co.
Dixon Crucible Co., Joseph
Dodge Brothers Corp.
Donovan Boiler Works, Inc.
Dresser, S. R., Mfg. Co. 21
Driftmeter, Inc.

E

Eagle-Picher Lead Co. 3
East Texas Refining Co.
Economy Electric Lantern Co.
Economy Pump & Tool Co., The
Edward Valve & Mfg. Co., The
Empire Oil & Refining Co.
Ethyl Gasoline Corp.
Exchange Banks of Tulsa

F

Falk Corp., The
Fenwick-Reddaway Mfg. Co. 87
Fisher Governor Co.
Foster Wheeler Corp.
Foxboro Co., Inc., The 55
Franklin Valveless Engine Co.
Frick-Reid Supply Corp.

G

Garlock Packing Co., The
Gaso Pump & Burner Mfg. Co.
Inside Back Cover
Gates Rubber Co.
General American Tank Car Corp.
General Electric Co.
Globe Oil Tools Co.
Goodrich, B. F., Rubber Co., The
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co., Inc.
Goulds Pumps, Inc.
Graver Tank Mfg. Corp.
Gray Processes Corp., The
Griscom-Russell Co., The
Guiberson Corp., The 45
Gulf Refining Co.

H

Halliburton Oil Well Cementing Co. 6
Hazard Wire Rope Co.
Hedges-Walsh-Weidner Co., The 59
Heeter, Sons & Co., Inc., C. M.
Hercules Motors Corp.
Hercules Supply Co.
Hercules Tool Co.
Heydrick Mapping Co.
Highland Iron & Steel Co., The
Hope Engineering Co. 7
Hughes Tool Co. Back Cover
Humble Oil & Refining Co.

I

Industrial Dallas, Inc.
International Derrick & Equipment Co. Front Cover
International Harvester Co. of America
International-Stacey Corp. Front Cover
International Supply Co.

J

Jackson Co., Byron
Jackson Engineering Corp.
Jarecki Mfg. Co.
Jenkins Bros.
Jerguson Gage & Valve Co. 86
Johns-Manville Corp.
Jones & Laughlin Steel Corp.

K

Kellogg, M. W., Co., The
Kennedy Valve Co., The
Kerotest Mfg. Co.
Key Boiler Equipment Co.
Kirk-Morrow Iron Works, Inc.

L

Landis Machine Co., Inc.
Layne & Bowler Co.
Leader Iron Works, Inc. 8
Leeds & Northrup Co.
Leonard Construction Co.
Lincoln Electric Co.
Linde Air Products Co.
Longyear, E. J., Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co., The
Lummus Co., The 28
Lunkenheimer Co., The 2

Mc

McClintic-Marshall Corp.
McCord Radiator & Mfg. Co.
McIntosh & Seymour Corp.
McKee, Arthur G., & Co.

M

MacClatchie Mfg. Co.
MacWhyte Company
Magnolia Petroleum Co.
Mair, D. S., Machinery Corp.
Maloney Tank Mfg. Co.
Marsh Gauge Pole Co.
Martin-Decker Corp.
Mason Regulator Co.
Mathieson Alkali Works, Inc., The
Merco Nordstrom Valve Co. 49
Metric Metal Works
Midwest Piping & Supply Co., Inc.
Mine Safety Appliance Co.
Moloney Electric Co.
Moon Mfg. Co., The
Moore, Lee C., & Co., Inc.
Moorlane Co., Inc.
Moser Manufacturing Co.
Munn & Co. 87
Murdock Mfg. & Supply Co., The

N

National Equipment Corp.
National Lead Co.
National Supply Co.
National Tank Co.
National Transit Pump & Machine Co.
National Tube Co. 25
Naylor Pipe Co.
Neilan Co., Ltd.
North American Car Corp.
Northwest Engr. Co.

O

Oakite Products, Inc.
Oil and Gas Journal, The 52
Oil Conservation Engineering Co.
Oil Equipment Engr. Expo. 51
Oil Well Supply Co.

P

Page Fence Assn.
Page Steel & Wire Co. 87
Paraffine Companies, Inc., The
Parkersburg Rig & Reel Co., The
Patterson-Ballagh Corp.
Penberthy Injector Co. 23
Petroleum Engineering, Inc.
Petroleum Equipment Co.
Petroleum Iron Works Co.
Petroleum Rectifying Co. 43
Pickering Governor Co., The
Pittsburgh Equitable Meter Co. 46
Pittsburgh-Des Moines Steel Co.
Pittsburgh Steel Products Co.
Plymouth Cordage Co.
Pomona Pump Co.
Powell, William, Co.
Power Mfg. Co., The
Power Piping Co.
Prescott Co., The
Public Service Co.
Pure Oil Co., The

R

Reading Iron Co.
Reading-Pratt & Cady Co., Inc.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Steel Corp. 32A-32B
Republic Supply Co.
Robinson Orifice Fitting Co.
Roebling's, John A., Sons Co.
Ross-Meehan Foundries Co.

S

St. Louis Cordage Mills
Shaffer Tool Works
Sherwin-Williams Co.
Smooth-On Mfg. Co. 59
South Chester Tube Co. 5
Southern States Co., The
Southwestern Construction Corp.
Spang, Chalfant & Co., Inc.
Sperry-Sun Well Surveying Co.
Stoody Co.
Sureshot Torpedo Co.

T

Taylor Forge & Pipe Works
Technical Products, Inc.
Texas Electric Service
Texas Steel Co.
Timken Michigan Co., The
Timken Roller Bearing Co., The 85
Titusville Iron Works Co.
Toledo Pipe Threading Machine Co. 83
Trackson Co.
Tretolite Co.
Trimont Mfg. Co.
Truman Smith Const. Co., The 36
Truscon Steel Co.
Tube Turns, Inc.

U

Union Wire Rope Co.
United Engineers & Constructors
United States Steel Corp.
Universal Oil Products Co. 19

V

Vacuum Oil Co., The
Vellumoid Co., The
Vogel, Felix A.
Vogt, Henry, Machine Co.

W

Wagner Electric Corp.
Wailes, Dove-Hermiston Corp.
Warren Petroleum Co.
Westco Pump Corp.
Westinghouse Electric & Mfg. Co., The
Wheeling Steel Corp.
Wickwire Spencer Steel Co.
Williamsport Wire Rope Co.
Winkler-Koch Engineering Co., The
Worthington Pump & Machy. Corp.

Y

Youngstown Sheet & Tube Co., The 8B

The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

VOL. 30. NO. 43 TULSA, OKLAHOMA, MARCH 10, 1932

Copyright, 1932, by The Petroleum Publishing Co.

Table of Contents

SPECIAL ARTICLES

Oil Industry is Now Out of the Rough 11
By Andrew M. Rowley
Crude oil production situation in good shape. Increased demand will start latter part of this month.

Plan $1.00 Fuel Oil and 8 Cent Gasoline 13
By A. E. Mockler
Kessler plan for world co-operation revised to meet requirements of U. S. laws.

Octane Race Now Gaining Momentum 14-15
By W. T. Ziegenhain
Refiners marketing in Middle West focus efforts on improving antiknock value.

Rumania Gas Fire Finally Conquered 16
By L. G. E. Bignell
Spectacular blaze brought under control by American engineer after eight months' battle.

Many Difficulties at Hoh Head Well 17
By Harold Olson
Cost of transporting equipment was $36 a ton. Forest and thick underbrush add to troubles.

As To Restrictions Upon Production 18
By Amos L. Beaty
A. P. I. president tells Californians industry needs legal regulation.

In the Wrong Place (Editorial) 20

Refiners Curtail Runs to New Low 22
By W. T. Ziegenhain
March operations designed to put prices on profitable level. Schedules below all since May, 1926.

Bureau of Mines Victim of False Economy 24
By Charles E. Kern

Pipe Line Construction News 37

Field Operations in February 77

Bureau of Mines January Report 78

Field Problems and Their Solution 81
Edited by Thomas F. Smiley

FIELD OPERATIONS

Late Fields 24

Tioga Gas Field 24

Oklahoma 26
By W. A. Spinney

Kansas 27
By W. A. Spinney

North Louisiana, Arkansas, Mississippi 29
By J. R. Crumpton

Southwest Texas 30
By B. D. Stevenson

Gulf Coast 31
By Neil Williams

Rocky Mountain Area 32
By Tolbert R. Ingram

Canada 32
By Victor Lauriston

California 33
By L. P. Stockman

Michigan 34
By George A. Whitney

Central West and Kentucky 35
By George A. Whitney

Eastern Fields 35
By Staff Correspondent

East Texas 38
By L. E. Bredberg

West and North Texas and Panhandle 40
By L. E. Bredberg

REFINING AND MARKETING

Oklahoma Refinery Gasolines Advance 12
By C. O. Willson
U. S. Motor grade one-fourth cent higher. No change in natural gasoline. Scarcity of industrial fuels.

Technical Questions Answered 56
By C. K. Francis, Ph. D.

Brief Items for Petroleum Refiners 66

Natural Gasoline Manufacture 67

Refinery and Crude Prices 68-69

Tank Wagon Quotations 70

Of Interest to Sales Departments 71

DEPARTMENTS OF GENERAL INTEREST

The Advertisers' Index 9

Personal Paragraphs About Oil Men 53

Natural Gas Developments 54

Classified Want Advertisements 62-63

Oil Industry Equipment and Supplies 82-84

California Operations 86

Crude Petroleum Statistics 88

BRANCH OFFICE CORRESPONDENTS

L. E. Bredberg, 601 Petroleum Building, Fort Worth, Texas.
Robert C. Conine, Room 1416, 6 North Michigan Ave., Chicago, Ill.
J. R. Crumpton, 540 Ricou Brewster Building, Shreveport, La.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
Tolbert R. Ingram, 130 State Office Building, Denver, Colo.
Charles E. Kern, 606 District National Bank Building, Washington, D. C.
Victor Lauriston, 35 Stanley Ave., Chatham, Ontario, Canada.
B. E. V. Luty, Bessemer Building, Pittsburgh, Pa.
A. E. Mockler, Rooms 1919-21, No. 154 Nassau Street, New York, N. Y.
B. D. Stevenson, 1504 Milam Building, San Antonio, Texas.
L. P. Stockman, 522 Union Oil Building, Los Angeles, Calif.
Leon H. Walter, Oil City Derrick, Oil City, Pa.
George A. Whitney, Box 98, Main Post Office, Toledo, Ohio.
Neil Williams, 1116 Second National Bank Building, Houston, Texas.

Refinery Section Starts on Page 64

Oil Industry Is Now Out of the Rough

Highest production in 1931, week ending Aug. 8, average daily output 2,551,807 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Crude Oil Production Situation in Good Shape. Increased Demand Will Start the Latter Part of This Month

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1931 was for week ending Sept. 5 with average output of 1,736,007 bbls.

Belief that the petroleum industry is definitely out of the rough and is making steady, though slow, progress towards much better times is becoming more general. There is a sound basis for this feeling. No oil fields of major importance have been discovered since East Texas was opened. East Texas no longer is considered a menace to the situation. The average production of the field is below the allowable because a number of the wells cannot yield the 75 barrels per day permitted. There is little or no actual proration in Oklahoma outside of Oklahoma City and operators in that field realize they must curtail their output to a very small percentage of the so-called potential to prevent water encroachment with a consequent destruction of their properties.

Judge Beaty, President of the American Petroleum Institute, in a speech in Los Angeles this week states the oil industry must discover each year nine pools with an ultimate recovery of 100,000,000 barrels each in order to supply the industry with an adequate quantity of raw material to meet its requirements. The crude oil production curve, shown below, has registered a steady trend downward this year. The difference between the output now and the same period last year will be much more marked during the next few weeks. The Economics Committee of the American Petroleum Institute, in its report approved by the Institute, states the requirements for domestic crude oil production during March will be 2,084,000 barrels daily and 2,355,000 barrels daily during April. Production now is slightly above the average set for March but, from present indications, the output during April will be substantially below the figure set for that month.

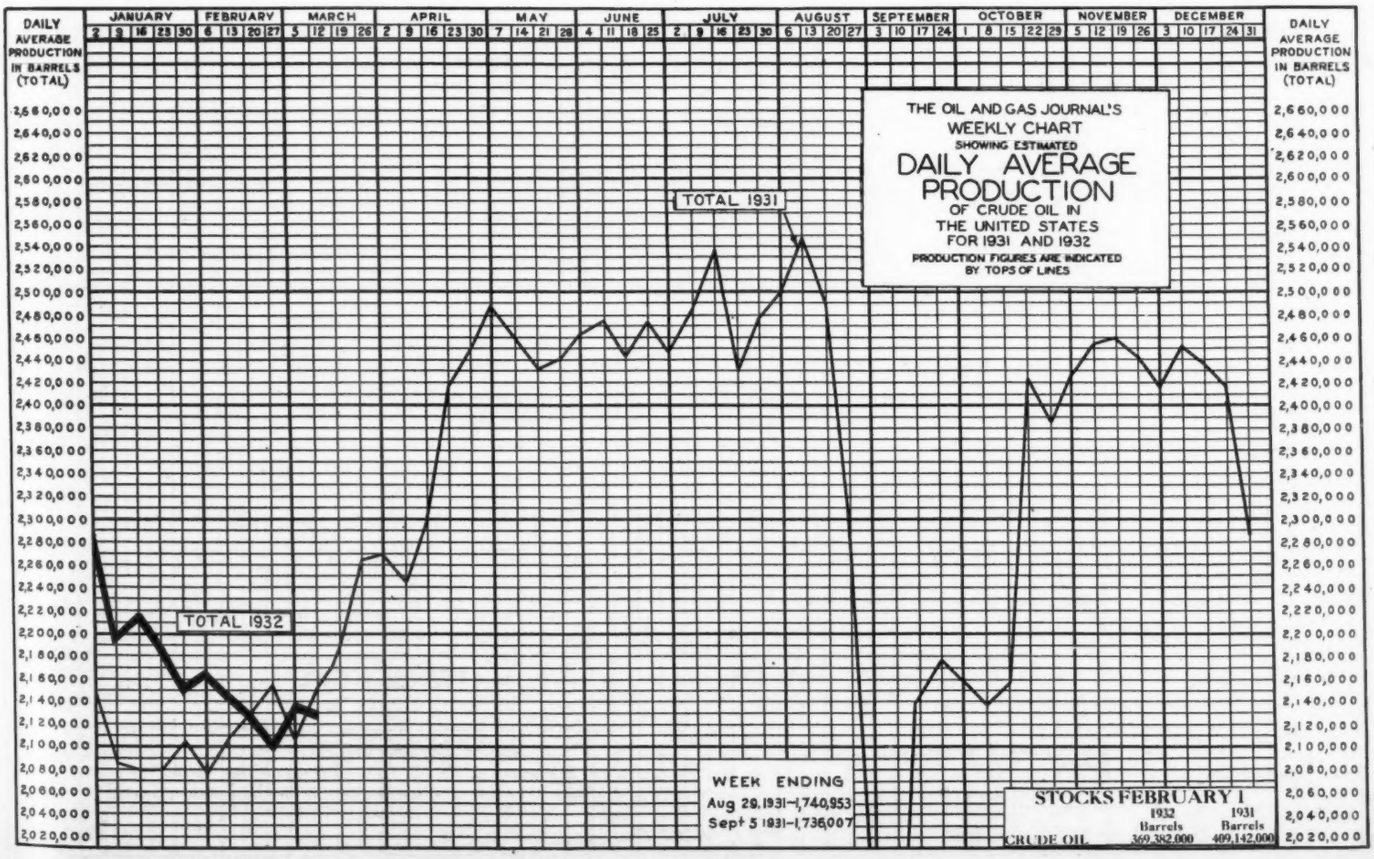
The increased demand for crude oil will be felt the latter part of this month. It will continue to enlarge during the spring and summer. Some of this increased demand can be supplied from Oklahoma City which is producing just a little more than half of what it can produce safely. But a good part of the increase will be supplied from storage and crude oil prices should be increased when this condition obtains.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for the week ended March 5, and a comparison with the previous week, follows:

	Mar. 5	Feb. 27
Oklahoma—		
Oklahoma City	93,165	109,320
Seminole-St. Louis	118,435	120,085
Remainder of State	206,780	202,215
Total Oklahoma	418,380	431,620
East Texas—		
Kilgore	97,765	96,658
Lathrop	110,469	108,077
Joiner	101,685	100,036
Total East Texas	309,919	304,771
West Texas	177,563	178,743
North Central Texas	70,785	70,956
Texas Panhandle	50,708	47,605
East Central Texas	54,847	54,587
Gulf Coast—Texas	104,032	102,860
Southwest Texas	57,352	58,132
Total all Texas	825,206	817,654
Kansas	101,385	99,940
North Louisiana	27,905	28,195
Gulf Coast—Louisiana	27,116	26,138
Arkansas	34,020	33,865
Eastern Fields	115,000	117,000
Rocky Mountain Area	84,206	84,144
California—		
Santa Fe Springs	65,000	64,750
Long Beach	78,750	79,000
Playa Del Rey	19,750	19,750
Elwood	16,650	16,500
Kettleman Hills	60,000	59,500
Remainder of State	258,100	261,000
Total California	498,250	500,500
Total United States	2,131,468	2,139,056

→ **Decrease, 7,588 Bbls. Daily** ←



Oklahoma Refinery Gasolines Advance

U. S. Motor Grade One-Fourth Cent Higher. No Change in Natural Gasolines. Scarcity of Industrial Fuels

By C. O. Willson

Supported by practically all refinery operators in the Mid-Continent, prices on the three grades of U. S. Motor gasoline advanced one-fourth cent the first of the week. In Oklahoma (Group 3), the U. S. Motor gasoline of no octane rating was advanced to a low of 3¼ cents. The 57-65 octane U. S. Motor gasoline was 3¾ cents (low) and 65 octane and above 4 cents. Blending naphthas and the 60-62 400 endpoint grades also advanced one-fourth cent, the low on 50-52 450 endpoint naphtha being 3¼ cents and 60-62 400 low octane 3⅝ cents. The higher gravity gasolines were not active but quotations were one-eighth cent higher than the close of last week.

Little change was noted in other products except the industrial fuels. The industrial fuel oils with a cold test under 25 are exceptionally scarce in Oklahoma. This is a development which has been under way for several months. The spot market supply during this period has been largely confined in Oklahoma to three or four plants. These plants either due to the quality of crude oil with which they are operated or through a blend of topped crude oil and residuum from cracking stills, have had industrial fuel oil material up to 24 gravity to offer for interstate shipment. Over the past week, two of these companies have withdrawn from the market and only limited supplies are available from other sources.

Practically all the remaining refiners in Oklahoma and Kansas for over a year have had practically no spot fuel oil to sell for interstate movement. The policy of most refinery operators is to confine their fuel oil sales to railroad contracts and spot sales to intrastate buyers where the seller can absorb a part or all of the freight rate advantage. While the interstate prices for low gravity and low cold test fuel have ranged from 20 to 25 cents per barrel for several months there are a number of refiners who have not sold under 30 cents per barrel on shipments within a short distance of their plants.

This situation plus a general reduction in crude oil runs to stills has brought a steady decline in the quantity of industrial fuel available. It was responsible for a 2½-cent per barrel advance in low gravity fuels during the week and some observers believe that additional advances are assured.

Had the purchases of industrial buyers been normal, it is certain that the price upturn would have come months ago. The industrial buying is still slow, however, and until that condition changes many buyers and sellers do not expect any substantial improvement in quotations. The trend toward reduced supply which has helped the industrial fuel oil market in Oklahoma has also tended to stiffen the U.G.I. gas oils. The price range of 1 to 1¼ cents has not been changed but there is more material moving at the top figure.

There has also been some improvement in the high cold test fuel oils and gas oils. This market is largely dominated by a few plants in the Oklahoma City and Texas Panhandle Fields. This material is generally around 60 cold test and ranges from 18 to 26 in gravity. Recently a large part of the supply has been absorbed by close-in refineries. Owners of these refineries buy this topped crude oil as charging stock for their cracking units at prices which range from 20 to 30 cents per barrel. Where a short freight haul is possible the cost of this topped crude at the buyers' plants is now enough to be attractive as cracking stock.

Gasoline Situation

It was too early on Monday and Tuesday to determine what the reception of buyers would be to the higher gasoline postings by refiners. Most observers were inclined to caution the sellers "to make haste slowly" in regard to price advances at this time. A majority of these observers agree that general conditions in the oil business have a more favorable outlook than they did last year at this time. This is due to the apparent success of the producing branch in keeping the crude oil supply in line with the demand. The producing branch over the past few weeks has weathered several gales in the form of court decisions aimed at martial law control of proration and this, together with the apparent willingness on the part of producers to curtail their output to meet any reductions in demand, has brought greater confidence in the general crude oil situation.

(Continued on Page 78)

REFINED MARKET BAROMETER

The price improvement in the gasoline tank car market at refineries was confined to the Mid-Continent and Middle West where most operators advanced quotations from one-fourth to one-half cent per gallon the first of the week. Reports from other areas indicated weakness rather than strength in gasolines. Natural gasolines were unchanged in the Mid-Continent and California. The domestic kerosene market was generally steady but export prices were reduced. Some scattered improvement in heavy fuel oils was noted both in the interior and coastal markets. Advances in Pennsylvania grade cylinder stocks and neutral oils was the only change in lubricating oil markets. Fair demand for furnace oils and gas oils. Paraffin wax unchanged.

Mid-Continent—Refiners in all areas advance quotations on domestic grades of gasoline. Natural gasolines unchanged. Stronger tone to market for low cold test fuels. Good movement of furnace oils. Kerosene and tractor fuel steady.

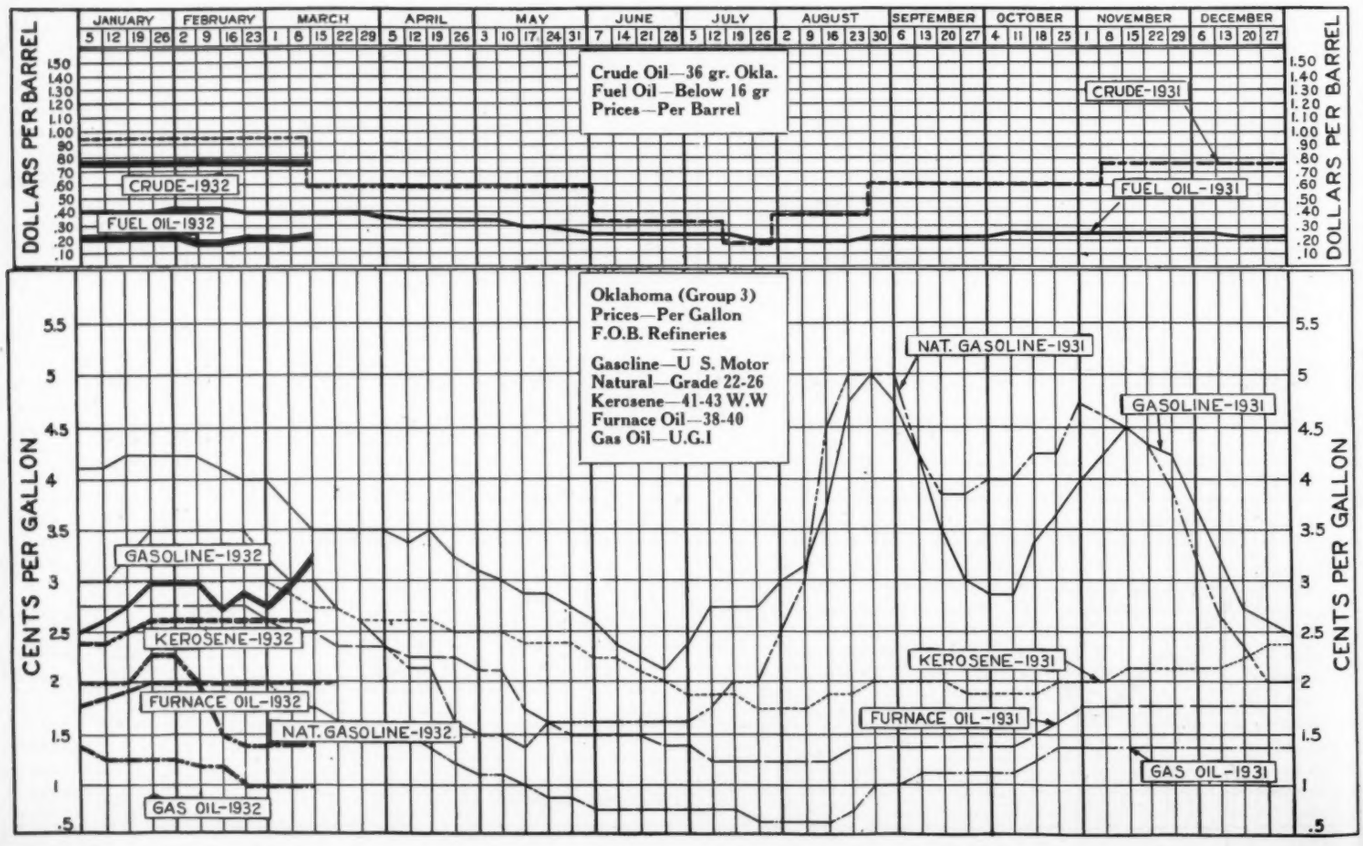
East Coast—Increasing stocks of gasoline at refineries brings easier market. Good movement of kerosene. Cylinder oils active. Attempt to advance bunker fuel oil and Diesel oil at some points. Routine trading in gas oils. Little new business in wax.

Chicago—Better tone to gasoline market. Blending naphthas strong. No improvement in kerosene demand. Furnace oil and gas oil easier.

Gulf Coast—Pale and red neutrals and finished motor oils weak. Fuels steady. Gasoline unchanged. Export kerosene lower.

Pennsylvania—Advances in some grades of neutral oil and cylinder stocks. Gasoline weak.

California—Better export demand for fuels. Gasoline unsettled.



Plan $1.00 Fuel Oil and 8 Cent Gasoline

Kessler Plan for World Co-operation to Balance Production and Consumption Revised to Meet Requirements of U. S. Laws

By A. E. Mockler

NEW YORK, Mar. 7.—Revival of the Export Petroleum Association as the medium for co-operation by the oil industry of the United States with petroleum interests in other world producing countries, agreement by the United States petroleum industry for limitation of exports for a five-year period, and creation of a central fund to provide financial assistance for producers whose only other recourse would be overproduction, is suggested as a basis for a world petroleum agreement for the balancing of production and consumption in a revised plan suggested by J. B. Aug. Kessler, one of the managing directors of the Royal Dutch company.

The new plan for adjusting the world petroleum situation is designed to meet the requirements of the laws of the United States, thus enabling American oil companies to participate, and contemplates the co-operation of all world producing countries (including Russia) until the free market price of liquid fuel f.o.b. Gulf or such other free market as may be representative of world market price. has been at least $1 per barrel for a period of six consecutive months, and during the same period the price of 64 Be. gasoline has been at least 8 cents per gallon. After such price levels have been reached and maintained, the plan provides. the Kessler plan is to become inoperative, but subject to reintroduction when prices come down to "critical levels."

Stocks in United States

The plan also emphasizes that the stock position in the United States must be kept within such limits as to safeguard producers in the rest of the world against the possibility that this country should accumulate large stocks with which to flood export markets if at any time the co-operative plan should be cancelled.

The complete plan proposed by Mr. Kessler follows:

Text of the Plan

By J. B. Aug. Kessler

Managing Director, the Royal Dutch Co.

In October, 1931, I published a plan for international co-operation by the world oil industry. This plan was based on the conviction now widely held by leading oil industrialists that prosperity cannot be brought back to the oil industry as a whole by an attempt to establish order in the distributing markets only. All such attempts must fail if primarily, overproduction is not brought to an end and the balance between supply and demand restored. One cannot stem an overflowing river by building a dam across it.

Although it was recognized in the oil producing countries who would have co-operated under my scheme, that it provided a simple and effective means of restoring the balance between supply and demand of oil, it was found that the laws in the U.S.A. did not admit of its application, as the form of international co-operation which I indicated was contrary to the laws regulating intercompany and interstate relationships in the U.S.A.

Submits New Method

In view of the impossibility of the U.S.A. oil industry co-operating under my original scheme, I submit on the basis of the following statistics, a method by which the U.S.A. oil industry can take its place in a plan for world co-operation which will do no more and no less than speed up the normal functioning of the economic law of supply and demand towards balancing supply and demand. Under this plan the balance between supply and demand would be promptly restored whilst avoiding the waste of irreplaceable riches.

For the years 1929, 1930 and 1931 import and export figures of the United States were as follows:

	1929 (Bbls.)	1930 (Bbls.)	1931 (Bbls.) (estm.)
Imports—			
Crude	78,932,572	62,129,419	46,837,400
Gasoline	8,834,302	16,926,800	13,994,600
Kerosene	208,008	200,086	12,500
Fuel and gas oil	20,545,498	26,080,383	24,996,600
Other products	44,557	173,721	74,800
Total	108,564,937	105,510,409	85,915,900
Exports—			(Estm.)
Crude	26,394,349	23,704,162	26,688,500
Gasoline	60,006,674	63,197,033	44,996,200
Kerosene	19,820,352	16,688,994	12,975,200
Gas and fuel oil	35,714,784	32,377,758	27,139,200
Other products	10,835,328	9,901,780	8,184,300
Total	152,771,487	145,869,727	119,983,400

Proposed Agreement

In the international agreement that I now propose, the only place that the United States needs take, and the only undertaking that it needs give is the

J. B. Aug. Kessler

following: (I have received very authoritative American legal advice that this proposal is on all fours with U. S. laws.)

The U. S. oil industry undertakes that the total of the U. S. exports of crude, gasoline, kerosene, gas oil and fuel oil and "other products" during any quarter will not be more than the following:

Crude oil—not more than the imports of crude during that quarter.

Gasoline—not more than the imports of gasoline during that quarter plus 50 per cent of the balance between the crude imports and crude exports during that quarter plus 6,000,000 bbls.

Kerosene—not more than the imports of kerosene during that quarter plus 20 per cent of the difference between crude import and crude exports during that quarter plus 2,000,000 bbls.

Gas oil and fuel oil—not more than the imports of gas oil and fuel oil during that quarter plus 20 per cent of the difference between crude imports and crude exports during that quarter.

"Other products"—2,500,000 bbls.

If this proposal were adopted it follows that an import duty or a prohibition of import into the United States cannot unbalance the world arrangement (about which more later) nor would it cause any hardship for the United States.

This proposal really means that the United States is given a first call on the export markets to the extent of a certain barrellage per quarter of gasoline and kerosene and of "other products" (viz 6,000,000 bbls. of gasoline, 2,000,000 bbls. of kerosene, and 2,500,000 bbls. of "other products").

As it is not at all unlikely that the world consumption will continue to drop for a certain period, this first call on the export markets is a great advantage to the United States, and in order to prevent the possibility that they (United States) would take this advantage, but would cancel the arrangement as soon as the world consumption would go up again, it is clear that the U. S. oil industry should undertake not to cancel the agreement for a period of, say five years.

It is proposed that all other oil producing countries whose exports are larger than their imports will co-operate under the plan.

In my original plan I left Soviet Russia out for several reasons. Many of the comments on my scheme received . . . from various quarters express the opinion that without Soviet Russia it could not work satisfactorily. I, therefore, now propose that Russia will take its place with the other producing countries co-operating under the scheme.

The countries, therefore, that would be parties to the agreement are:

U.S.A. (on special conditions in accordance with U. S. laws), Venezuela, Russia, Persia, Rumania, Mexico, Dutch East Indies, Colombia, Peru, Trinidad, Poland, Sarawak, and Ecuador.

International Meeting

The oil industry in each of those countries should appoint fully authorized representatives for an international meeting.

There are only two prerequisite conditions for this international meeting.

The first is that the oil industrialists of these countries honestly believe that an endeavor should be made to bring the world production, excluding the United States, down to a figure equal to the "normal" world consumption, excluding the United States. Later I shall explain what I understand by the "normal" world consumption.

The second is that they each (with the exception of the United States) undertake for themselves that they will get their government to prohibit any drilling as long as the production of their country is above the figure which is considered by the oil industrialists of that country (and by them alone) as the minimum production to which they are entitled under the world oil conservation scheme. As the only undertaking which is asked from the U.S.A. oil industry is that they shall not export more than a certain quantity, as mentioned above, any arrangement about production or prohibition of drilling need not be entered into by the U.S.A. oil industry.

As an alternative to such a prohibition of drilling a tax on drilling of not less than say $30 per foot may be considered. An obvious disadvantage of a drilling tax is that it may become permanent, which would mean a lasting burden for the oil industry. On the other hand it may be difficult to get governments to prohibit drilling (under certain conditions) altogether. In fact both alternatives have their advantages and disadvantages.

Each Country Autonomous

I want to emphasize that each country can fix for itself its minimum production. The lower they fix it the easier my scheme will work, but if they do not fix it low enough the scheme will still not only be workable, but the only prompt "way out" of the present troubles that I have heard of, and that will save the industry before there are so many casualties that the governments are bound to interfere (to a far larger extent than by temporarily prohibiting or taxing drilling as long as there is overproduction) in order to save their country, the balance of which is at present endangered by lack of co-operation in the industry.

The international meeting will first of all ascer-

(Continued on Page 79)

Octane Race Now Gaining Momentum

Refiners Marketing in Middle West Focus Efforts on Improving Antiknock Value. Third Grade to Receive Attention Next

By W. T. Ziegenhain

If the trend of changes in gasoline quality in the Mid-Continent marketing territory may be judged from laboratory tests made on samples collected over an 18-month period from the filling stations of 14 large manufacturers competing in the middle western states, the progress of the "octane race" in this area is made apparent. Without exception these manufacturers have increased the antiknock value of their motor fuels and the improvement in the regular motor grade has been equal to the increase in the premium grade. The number of samples of the third grade were too few and the introduction of this grade has been too recent to permit general conclusions to be drawn, but developments in the past two months indicate that considerable attention will be paid in the future to the octane value of even the third grade.

In assembling these data the laboratory results of three large refining companies were taken as a basis and since the test procedure has been well standardized it is believed that their results are comparable at least to the extent to show trends even though the data came from three sources. This is particularly true because the same laboratory reported the results on the same companies' gasoline throughout the two-year period.

The refining companies from whose filling stations these samples were collected include The Texas Company, Continental Oil Co., Pure Oil Co., Magnolia Petroleum Co., Gulf Refining Co., Empire Oil & Refining Co., Standard Oil Co. of Indiana, Phillips Petroleum Co., Mid-Continent Petroleum Corp., Barnsdall Refineries, Inc., Sinclair Refining Co., Skelly Oil Co., Deeprock Oil Corp. and Shell Petroleum Corp. These samples were taken at random from stations located in Chicago, Fort Worth, Milwaukee, Okmulgee, Okla., and Minneapolis.

It would be preferable to have such a survey include samples taken at a much greater number of points scattered throughout the vast territory served but this objection is answered in part at least by the fact that the great majority of refiners have standardized on a rather constant quality of gasoline going to all of their stations and they vary this quality only in accordance with extremes of seasonal weather. For comparison in this respect, it is better to refer to the tests made on samples collected in the same seasons as shown in the accompanying data. The laboratory tests which follow permits this comparison and in addition an average has been taken to more accurately show the trend.

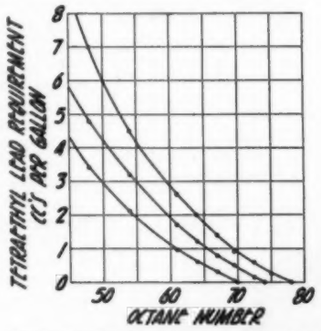
Octane Ratings

The octane number of the "average" regular grade gasoline on July 1 was 52.4 while on January 1 of this year it is shown as 60.1. Similarly, the octane number of the "average" premium grade increased from 66.9 in July, 1930, to 74.6 on January 1 of this year. Because there were only six samples of third grade gasoline included in the July, 1931, average and 13 included in the January, 1932, survey, the two are not comparable, but it is interesting to note that the average is above 51.

Regular Grade

In addition to the increase in the octane number of the regular grade of gasoline there has been a continuation of the trend to increase the volatility of the motor fuel. This change has been made throughout the entire distillation range but is most pronounced at the 10 per cent point. This trend conforms to the program of refiners to recover more light fractions at their plants as the result of more intensively cracking and also reflects the low prices quoted on natural gasoline over the past year. There has been a slight reduction in the 90 per cent point and a still greater reduction in the endpoint. This probably reflects the desire of the refiner to improve the antiknock rating of the gasoline rather than the demand on the part of the public for a lower endpoint motor fuel. This opinion is strengthened by the fact that very little difference now exists between the endpoint of the premium fuel and that for the regular fuel.

The trend toward the increased volatility of the motor fuel is evidenced by the higher average Reid vapor pressure. For comparative purposes the tests on the samples of winter gasoline may be



Graph showing approximate number of c.c. ethyl lead fluid needed to meet the new standard of 78 octane number for Ethyl Gasoline which became effective March 1. This may be compared with the c.c. needed to meet the former specifications of 74 and 70 minimum octane number.

cited in which the 1932 average is 8.9 pounds while the 1931 average is 7.5 pounds. As still another factor tending to point out the increasing use of light fractions in the gasoline is the declining average recovery.

Premium Grade

With the great majority of refiners now offering Ethyl Gasoline as their premium grade, the specifications established by the Ethyl Gasoline Corp. from time to time practically determine the trend. On March 1 a new set of specifications were placed in effect, the most important of which was the increase in the minimum octane number of the fuel from 74 to 78.

As each increase in the octane rating of the premium grade of gasoline is made it is necessary to either alter refinery operations or add more Ethyl fluid. From the summary of tests shown here it is indicated that the increase in the octane value of the premium grade over this period was accomplished by a combination of using more Ethyl fluid per gallon of motor fuel, by reducing the endpoint and by increasing the proportion of light fractions. There also has been a noticeable increase in the average Reid vapor pressure of the premium grade over the past year.

Third Grade

Very little may be concluded from either the summary of tests on the third grade samples or from the individual tests except that all third grade gasoline tested would have been considered "good" motor fuel only a few years ago.

Mid-Continent's Position

Because the Mid-Continent refiners market their products in the middle-western states they come in direct competition with the Chicago group of refiners.

Developments in the past month indicate that the battle for raising the octane number so far as the Chicago area is concerned has only been started. The Standard Oil Co. of Indiana this week is announcing that contracts have been let for a 20,000-bbl. combination reforming topper and viscosity breaker along with auxiliary equipment necessitating an expenditure of $2,000,000. Similarly, plans are definitely under way and bids being sought for the erection of three reforming units in the Mid-Continent. The request has been made that names be withheld for the time being. These are only the jobs which might be said to be definitely under way but there are at least eight other jobs carrying very complete plans for the erection of cracking equipment in one form or the other for the one purpose of improving the octane value of the gasoline.

In the past six months the subject of adding cracking equipment to increase the octane value of gasoline has been discussed pro and con, with the "cons" leading. The attitude generally taken was that the present motor did not need a better gasoline. The one refiner was even ready to advise his competitor not to add new equipment (or at least until there was sufficient time to get his own in). All during this period of "stalling," however, there were but few important refining organizations who did not formulate rather definite programs of construction and expansion in cracking facilities and with the first sign of a general business recovery and rising gasoline prices more of these plans are going to take form. The question of credit is a handicap to some while the practice of watchfully waiting has been adopted by others.

That there is a need for additional cracking capacity in the Mid-Continent plants is generally agreed upon by Mid-Continent refiners. This is true, if the practices in the plants of other areas may be taken as a criterion of trends.

The following table shows the percentage of cracked gasoline in the total output of gasoline from the respective areas for the past three years:

PER CENT CRACKED GASOLINE

Refining area:	1929	1930	1931
East Coast	44.6	48.9	53.6
Appalachian	33.6	34.4	40.6
Indiana-Illinois	42.0	46.0	47.0
Oklahoma-Kansas	33.7	35.8	36.3
Inland Texas	17.9	27.6	26.7
N. Louisiana-Arkansas	37.9	46.0	38.1
Texas Gulf	44.3	45.8	48.7
Louisiana Gulf	30.3	45.5	48.8
Rocky Mountain	43.3	44.4	44.2
California	12.5	19.3	22.0
Total United States	33.0	38.0	40.8

These data were taken from reports issued by the Bureau of Mines and clearly show the slow progress the Oklahoma-Kansas group has made during this period compared to the other areas and although inland Texas has shown a substantial increase in its cracking activities within the past two years it still remains only a short distance ahead of California where we still think cracking "has not been generally adopted."

Common Problem

The above comparison of intensity of cracking was cited simply to show that there is room for the average Mid-Continent refiner to increase the octane number of his gasoline by adding cracking equipment. The problem in the Mid-Continent is intensified by the fact there are a large number of relatively small plants many of which now have no cracking equipment and the crude runs are not normally maintained at a high enough figure to permit an economically sized cracking unit to be built.

Except for the fact there are a large number of relatively small refineries in the Mid-Continent area in which the problem of balancing the cracking and skimming operation must be economically carried out, the problem of increasing the octane value of the Mid-Continent gasoline is no different than the problem all other refiners must face.

When refining was a simple distillation process the octane value of the gasoline was dependent upon the natural constituents of the crude and to a lesser degree upon the distillation range of the product. Then cracking, including both what is now termed liquid phase and vapor phase, was instituted. However, liquid phase cracking was developed and adopted much more readily than the vapor phase type because of the desire to produce a maximum volume of cracked gasoline and the antiknock value of the vapor phase cracked gasoline was not recognized. With the revision of the principles used in what is commonly termed a vapor phase process and also the liquid phase process the two approached the likeness of the other.

So cracking became the accepted practice first to increase the recovery of gasoline from crude and more recently to also improve its antiknock value. Thus the modern plant equipped with ordinary cracking units is producing gasolines of reasonably high octane value. It is at this point most refiners now find themselves. The next step to be made will probably be determined by the pressure brought by the marketing department as it finds new and more severe competition being offered in the octane race by competitors.

In the case of raising the octane value of the premium grade or Ethyl Gasoline on March 1 some refiners will simply add more of the Ethyl fluid to the gasoline. Others will probably favor cutting the endpoint some, make a more careful selection of crude or include a greater percentage of the cracked gasoline in this grade.

That will be the manner in which the new Ethyl Gasoline standard will be met but to raise the octane value of the regular grade and the third grade will require much more than a further adjustment of operations. Most refiners have already stretched every factor which tends to yield gasolines of higher antiknock value. If there is a marked movement on foot to boost the regular grade still higher or to bring the third grade up, there is nothing known left to do but add cracking equipment.

Since the question of adding equipment to raise the octane number is a matter for the marketing department to justify rather that being a manufacturing problem, the move of the Standard Oil Co. of Indiana and a few others to feature their third grade of gasoline now is being closely watched by marketers. Samples of Stanolind Blue have been tested recently and show a marked improvement in octane value.

Gasoline of the Future

It would not be surprising to many to see by fall, the going market demanding in the regular course of trading a 70 octane number on the regular fuel and 60 octane number for the third grade. Obviously if this occurs refiners making Ethyl Gasoline will not be able to take the cream of the production for the premium and regular grades and let the rest fall into the third grade, but will have to make definite plans for making even an exceptionally good third grade gasoline. Under the new Ethyl standard of 78 octane number it will be necessary that the base fuel have an octane value of 59 to 60. Under the standard prior to March 1 it was possible to use a base fuel having an octane value of about 55.

Since the cost of the Ethyl fluid remains at .35 cent per c.c. and the royalty has been reduced to .425 and the minimum and maximum number of c.c. possible to use is specified as between .9 and 3 c.c., the cost of using the fluid will range from approximately three-quarter cent to 1½ cent.

COMPANY A

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	50	51	50	60
I.P.	134	103	100	95
10%	153	158	158	142
20%	188	194	193	176
50%	264	278	280	258
90%	367	386	392	374
E.P.	405	419	420	418
Rec.	97.0	97.5	97.0	97.5
RVP.	8.8	5.5	6.8	8.8
Premium grade				
O.N.	65	72	73	75
I.P.	106	102	98	97
10%	156	158	154	148
20%	186	191	188	178
50%	260	276	272	248
90%	373	380	378	350
E.P.	411	414	410	396
Rec.	98.0	98.0	97.0	97.0
RVP.	7.1	5.2	8.0	7.4
Third grade				
O.N.	...	...	51	46
I.P.	...	...	94	106
10%	...	...	151	168
20%	...	...	195	198
50%	...	...	294	274
90%	...	...	399	388
E.P.	...	...	440	429
Rec.	...	...	96.5	98.0
RVP.	...	...	7.7	5.7

COMPANY B

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	58	64	64	65
I.P.	103	87	96	86
10%	...	...	...	...
20%	191	183	185	168
50%	267	263	262	250
90%	382	381	381	371
E.P.	424	420	420	410
Rec.	96.6	97.1	97.1	97.0
RVP.	...	...	...	...
Premium grade				
O.N.	64	77	77	78
I.P.	105	86	97	87
10%	...	...	...	...
20%	188	181	187	177
50%	260	258	263	260
90%	376	373	377	363
E.P.	416	417	418	408
Rec.	96.3	97.0	97.2	97.0
RVP.	...	...	...	...
Third grade				
O.N.	...	...	55	55
I.P.	...	...	97	89
10%	...	...	...	...
20%	...	...	188	174
50%	...	...	257	255
90%	...	...	362	364
E.P.	...	...	419	417
Rec.	...	...	97.3	97.1
RVP.	...	...	...	...

COMPANY C

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	48	65	55	65
I.P.	108	96	96	95
10%	161	148	148	144
20%	193	179	180	176
50%	263	252	258	253
90%	378	354	365	365
E.P.	426	396	400	402
Rec.	98.0	96.0	96.5	96.0
RVP.	5.9	6.6	8.1	8.2
Premium grade				
O.N.	71	73	73	75
I.P.	98	108	99	96
10%	151	152	148	151
20%	180	184	180	172
50%	268	259	266	246
90%	377	361	373	371
E.P.	408	404	418	404
Rec.	97.0	98.4	97.0	95.5
RVP.	8.6	5.5	7.3	7.0
Third grade				
O.N.	...	...	...	56
I.P.	...	...	...	97
10%	...	...	...	151
20%	...	...	...	189
50%	...	...	...	269
90%	...	...	...	384
E.P.	...	...	...	422
Rec.	...	...	...	97.0
RVP.	...	...	...	7.0

COMPANY D

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	50	63	48	64
I.P.	112	98	113	90
10%	166	152	163	140
20%	192	185	191	173
50%	346	360	360	356
90%	345	355	360	370
E.P.	396	392	395	405
Rec.	97.5	97.0	96.5	95.0
RVP.	7.2	6.8	6.0	11.0
Premium grade				
O.N.	65	70	72	76
I.P.	102	101	111	101
10%	142	148	164	152
20%	163	171	185	182
50%	219	226	240	256
90%	309	321	341	362
E.P.	364	377	389	394
Rec.	97.5	97.0	97.2	96.0
RVP.	8.3	5.9	5.3	7.0
Third grade				
O.N.	...	...	...	56
I.P.	...	...	...	116
10%	...	...	...	176
20%	...	...	...	205
50%	...	...	...	267
90%	...	...	...	367
E.P.	...	...	...	425
Rec.	...	...	...	97.0
RVP.	...	...	...	4.0

COMPOSITE OF TESTS MADE ON ALL STATION SAMPLES OF LIKE GRADE

Regular grade:	July, 1930	Jan., 1931	July, 1931	Jan., 1932
Octane number	52.4	58.1	57.6	60.1
Initial	105	97	100	94
10 per cent	155	150	151	141
20 per cent	187	184	181	172
50 per cent	262	265	288	254
90 per cent	372	372	369	369
Endpoint	411	409	408	405
Recovery	97.3	97.0	97.1	96.6
Reid vapor pressure	7.5	6.3	7.5	8.9
Number of companies	11	12	14	14
Premium grade:				
Octane number	66.9	72.2	73.3	74.6
Initial	101	95	102	96
10 per cent	147	145	149	143
20 per cent	176	174	177	170
50 per cent	250	250	249	251
90 per cent	360	356	355	355
Endpoint	405	400	407	394
Recovery	97.3	97.0	97.3	96.9
Reid vapor pressure	8.1	7.3	7.6	8.1
Number of companies	8	12	13	14
Third grade:				
Octane number	....	....	51.5	51.2
Initial	....	....	98	102
10 per cent	....	....	152	160
20 per cent	....	....	191	191
50 per cent	....	....	277	269
90 per cent	....	....	390	377
Endpoint	....	....	429	421
Recovery	....	....	97.0	97.3
Reid vapor pressure	....	....	7.5	6.1
Number of companies	....	....	6	13

COMPANY E

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	55	58	59	61
I.P.	98	99	102	89
10%	160	161	156	144
20%	196	196	183	180
50%	275	278	248	262
90%	389	380	356	374
E.P.	415	410	417	400
Rec.	96.0	97.0	97.5	95.0
RVP.	9.0	6.0	7.4	11.3
Premium grade				
O.N.	68	69	70	72
I.P.	98	90	98	92
10%	140	141	144	136
20%	168	171	169	160
50%	244	252	242	228
90%	351	356	346	340
E.P.	403	386	386	384
Rec.	97.0	96.0	97.0	96.0
RVP.	8.3	9.5	8.6	9.5
Third grade				
O.N.	...	...	50	54
I.P.	...	...	100	94
10%	...	...	160	150
30%	...	...	197	190
50%	...	...	278	276
90%	...	...	395	378
E.P.	...	...	425	426
Rec.	...	...	97.0	96.5
RVP.	...	...	8.0	9.0

COMPANY F

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	56	63	61	60
I.P.	96	98	97	98
10%	150	148	154	148
20%	184	181	175	180
50%	258	258	256	258
90%	357	358	360	370
E.P.	400	398	400	404
Rec.	97.0	97.0	97.0	97.0
RVP.	7.8	5.7	8.5	9.2
Premium grade				
O.N.	72	72	75	76
I.P.	105	97	110	99
10%	158	148	168	143
20%	188	180	195	176
50%	250	248	262	254
90%	349	358	358	364
E.P.	397	401	402	398
Rec.	98.0	97.0	98.0	97.0
RVP.	7.8	5.7	8.5	7.2
Third grade				
O.N.	...	...	...	52
I.P.	...	...	...	104
10%	...	...	...	164
20%	...	...	...	196
50%	...	...	...	270
90%	...	...	...	374
E.P.	...	...	...	414
Rec.	...	...	...	98.0
RVP.	...	...	...	6.4

COMPANY G

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	54	59	55	58
I.P.	98	100	104	90
10%	163	155	152	134
20%	197	194	180	168
50%	280	282	261	260
90%	378	378	364	365
E.P.	416	415	406	397
Rec.	97.0	97.5	97.0	97.5
RVP.	6.6	7.1	6.5	9.1
Premium grade				
O.N.	72	72	74	
I.P.	96	114	94	
10%	150	164	137	
20%	180	185	163	
50%	250	237	232	
90%	356	342	326	
E.P.	404	398	375	
Rec.	97.5	98.0	98.0	
RVP.	9.0	5.2	7.6	
Third grade				
O.N.	...	...	50	49
I.P.	...	...	94	96
10%	...	...	151	152
20%	...	...	191	178
50%	...	...	272	277
90%	...	...	396	382
E.P.	...	...	435	434
Rec.	...	...	96.5	98.0
RVP.	...	...	7.3	6.7

COMPANY H

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	53	64	58	60
I.P.	99	95	97	88
10%	132	132	133	119
20%	160	154	155	137
50%	220	234	233	211
90%	361	376	384	378
E.P.	414	422	427	423
Rec.	97.5	97.0	97.0	97.0
RVP.	8.2	8.6	8.1	10.0
Premium grade				
O.N.	...	...	72	74
I.P.	...	...	94	94
10%	...	...	128	116
20%	...	...	148	134
50%	...	...	228	218
90%	...	...	384	383
E.P.	...	...	417	425
Rec.	...	...	96.5	96.5
RVP.	...	...	8.8	10.2
Third grade				
O.N.	...	...	...	46
I.P.	...	...	...	104
10%	...	...	...	166
30%	...	...	...	204
50%	...	...	...	286
90%	...	...	...	389
E.P.	...	...	...	422
Rec.	...	...	...	97.5
RVP.	...	...	...	5.0

COMPANY I

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	...	51	59	55
I.P.	...	97	99	96
10%	...	147	147	141
20%	...	192	180	178
50%	...	288	263	260
90%	...	384	370	367
E.P.	...	432	414	408
Rec.	...	97.0	97.5	97.0
RVP.	...	7.4	8.4	7.7
Premium grade				
O.N.	...	72	74	75
I.P.	...	89	96	98
10%	...	136	146	150
20%	...	166	178	176
50%	...	248	269	260
90%	...	360	362	352
E.P.	...	404	406	395
Rec.	...	96.5	98.0	97.5
RVP.	...	6.8	7.6	7.3
Third grade				
O.N.	...	...	51	50
I.P.	...	...	94	103
10%	...	...	151	158
30%	...	...	195	196
50%	...	...	294	286
90%	...	...	399	392
E.P.	...	...	440	434
Rec.	...	...	96.5	97.0
RVP.	...	...	7.7	5.7

COMPANY J

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	45	55	53	48
I.P.	104	97	102	98
10%	166	154	162	156
20%	198	186	194	188
50%	272	272	272	264
90%	382	385	384	380
E.P.	416	415	419	417
Rec.	98.9	97.5	98.5	97.5
RVP.	5.7	4.1	6.0	7.8
Premium grade				
O.N.	...	72	72	73
I.P.	...	91	90	102
10%	...	138	140	152
20%	...	168	172	180
50%	...	262	270	250
90%	...	384	387	362
E.P.	...	420	418	400
Rec.	...	97.0	96.5	97.5
RVP.	...	7.3	10.1	7.7
Third grade				
O.N.	...	...	...	49
I.P.	...	...	...	102
10%	...	...	...	160
20%	...	...	...	188
50%	...	...	...	263
90%	...	...	...	386
E.P.	...	...	...	421
Rec.	...	...	...	97.5
RVP.	...	...	...	7.3

COMPANY K

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	53	56	60	66
I.P.	100	92	95	96
10%	155	142	147	140
20%	194	178	180	174
50%	282	274	262	257
90%	384	362	368	350
E.P.	419	390	400	382
Rec.	98.0	96.5	96.0	97.0
RVP.	7.0	6.3	9.0	8.4
Premium grade				
O.N.	66	72	75	77
I.P.	99	92	98	99
10%	146	140	144	146
20%	176	169	170	178
50%	250	240	237	242
90%	360	344	350	342
E.P.	418	407	392	378
Rec.	97.5	96.5	97.0	96.0
RVP.	8.0	6.8	8.2	9.3
Third grade				
O.N.	...	...	...	51
I.P.	...	...	...	103
10%	...	...	...	164
20%	...	...	...	200
50%	...	...	...	263
90%	...	...	...	368
E.P.	...	...	...	402
Rec.	...	...	...	96.0
RVP.	...	...	...	6.4

COMPANY L

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	54	48	60	60
I.P.	102	99	100	100
10%	146	154	151	152
20%	179	190	180	180
50%	258	262	253	258
90%	368	366	362	360
E.P.	423	402	406	400
Rec.	97.5	97.0	98.0	97.0
RVP.	9.0	5.7	8.0	8.2
Premium grade				
O.N.	64	72	...	75
I.P.	94	88	...	98
10%	136	132	...	150
20%	161	164	...	178
50%	249	258	...	248
90%	386	385	...	350
E.P.	422	410	...	394
Rec.	97.4	96.5	...	97.5
RVP.	9.9	10.0	...	7.8
Third grade				
O.N.	...	...	...	48
I.P.	...	...	...	104
10%	...	...	...	156
20%	...	...	...	180
50%	...	...	...	238
90%	...	...	...	362
E.P.	...	...	...	414
Rec.	...	...	...	97.5
RVP.	...	...	...	6.4

COMPANY M

Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.	...	...	60	58
I.P.	...	...	103	91
10%	...	...	143	134
20%	...	...	174	164
50%	...	...	255	253
90%	...	...	357	367
E.P.	...	...	395	409
Rec.	...	...	97.0	97.0
RVP.	...	...	7.4	8.7
Premium grade				
O.N.	...	73	74	72
I.P.	...	103	109	97
10%	...	147	143	137
20%	...	170	164	163
50%	...	226	214	223
90%	...	300	317	317
E.P.	...	358	357	367
Rec.	...	97.0	98.0	98.0
RVP.	...	7.6	7.5	7.4

(Continued on Page 75)

Rumanian Gas Fire Finally Conquered

Spectacular Blaze Extinguished and Well Brought Under Control by American Engineer After Eight Months' Battle

By L. G. E. Bignell
Petroleum Engineering Editor

Among other requisites of the oil and gas well fire fighter two of the most outstanding are perseverance and ingenuity and they were probably never better exemplified than in the long struggle to bring under control the wild gas well of the Societe Romana-Americana known as No. 160, located at Tsuicani, in the Morenci Field, Rumania. This well was drilled into high pressure gas on May 22, 1929, and immediately caught fire. It continued to burn until November 4, 1931, and was finally brought under control February 7, 1932, when the gas was turned into the natural gasoline plant on the property.

Stories of the gas fire have been carried in The Oil and Gas Journal from time to time, but a brief review of the history of the fire will be given to present a background to the story of the final fight to bring the well under control. The last work was carried on by M. M. Kinley, fire fighter, of Tulsa, who went to Rumania last summer to take over the operations there and continued on the job until early in February when the gas was finally diverted into separators and from them was going to the gasoline plant.

A portion of the old pipe lines destroyed by the gas fire at No. 160 well, Morenci district, Rumania.

In the June 12, 1930, issue of The Oil and Gas Journal there was published an article on the several attempts that had been made up to that time to bring this well under control. From that story the following data are taken.

The well was drilled to a depth of about 4,793 feet when a high pressure gas sand was encountered and while attempting to core the formation the well came in out of control. Core barrel and string of drill pipe were blown out of the hole and it is assumed that the pipe caused a spark as it left the hole and this ignited the gas. It was estimated that the pressure in this well was not less than 2,500 pounds per square inch and the flow of gas about 150,000,000 feet per day.

This enormous torch of gas quickly burned the derrick and reduced all equipment at the well head to a mass of glowing metal and presented a very difficult problem in fire fighting. For a considerable time the fire was allowed to burn undisturbed and engineers for the Romana-Americana Co., a subsidiary of the Standard Oil Co. (New Jersey), gave consideration to ways and means of bringing the well under control. These conferences were attended by the engineers for the Rumanian government.

It was decided to drive a tunnel from a point on the surface located at a safe distance from the fire to the 14-inch casing about 70 feet below the ground level. The tunnel was completed as planned and by means of a milling cutter a hole was drilled through all casing and finally penetrated the inside string of 6¾-inch casing. This tunnel reached the well at a point just below the seat of the 62 feet of 28-inch surface pipe. They finally succeeded in placing a special casing saddle over the 14-inch string of casing. This saddle was provided with connection for 10-inch pipe. A string of 10-inch casing was connected to the saddle and through it a string of 4-inch drill pipe was run to transmit the power required for drilling from a steam engine set at the mouth of the tunnel.

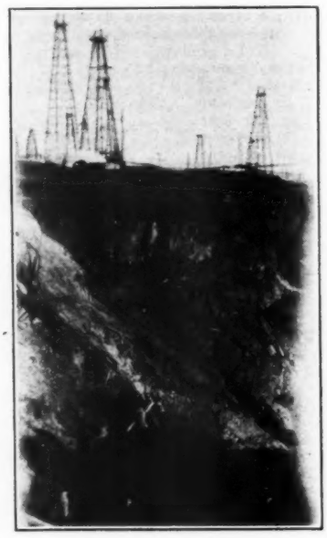
Explosion in Tunnel

This work was successful in that the various strings of casing were penetrated and a portion of the gas diverted to the surface through the 10-inch string of casing. Later an explosion occurred in the tunnel which wrecked it and rendered this work useless. It is through this tunnel and the string of 10-inch pipe that the well is now producing and further reference will be made to it later in the story as the first tunnel.

After the tunnel was wrecked, a second one was started at another point but never finished for gas broke through into it from the first tunnel and it had to be abandoned as unsafe.

A third tunnel was then driven from a point about 800 feet from the well and it was a rather elaborate affair being 8'x8' in the clear and reached the well at a point about 270 feet below the surface. A chamber was dug around the well and another tool used to drill through the casing strings. After they were penetrated, mud was pumped into the well under high pressure but failed to reach the producing formation and channeled across to offset wells.

The attempt to mud off the well having failed, all work was stopped for a time, and during that interval a gas explosion occurred in the third tunnel, wrecking it and the surface equipment. This second explosion occurred on May 28, 1930, about one year after the well first caught on fire.



A partial view of the crater formed by the gas well fire on the property of Romana-Americana Oil Co., Rumania.

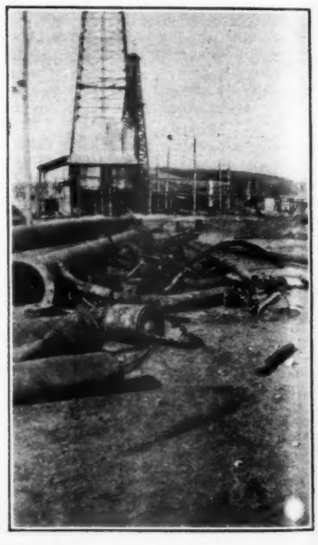
During the summer of 1930, M. M. Kinley and Clyde G. Gray of Tulsa visited the well and attempted to make a contract with the Rumanian government, which had taken over all operations, to put out the fire and bring the well under control. At that time the flow of gas was still very large and as this gas is heavier than the air it was feared that after the fire was shot out the gas would settle and accumulate in the valley surrounding the property and presents a very dangerous fire hazard.

Being unable to complete negotiations at that time, Messrs. Kinley and Gray returned to Tulsa, but Mr. Kinley was firmly convinced that he could conquer this fire and left Tulsa again in July and was successful in making a contract with Societe Romana-Americana, subsidiary of the Standard Oil Co. (New Jersey), to do this work. This had the approval of the government engineers and they were in consultation with Mr. Kinley during operations.

Kinley Starts Work

Arriving at the fire about August 1, Mr. Kinley first made a careful study of the conditions at the well and found that the steady blast of gas and sand that had been discharged from the well for over 18 months had cut out the greater part of the well casing. As the pipe was blown out of the hole the gas escaped into the surrounding surface formation and a great crater had been formed. This crater was approximately 250 feet in diameter and extended almost to the top of the first tunnel, or about 65 feet into the ground.

The surface at the well is made up largely of sand and shales and the heat from the flames burned this material to a fine dust which the gas carried into the air and it was blown away. This was one process of forming the crater, the other being due to erosion by rains and snows. As water accumulated in the hole mud was formed and blown out of the hole by the flow of gas.



Some of the scrap metal taken out of the crater at the gas well fire in Rumania.

The crater had a bench about 25 feet below the surface that divided it into an upper and lower section. The walls of the hole were at an angle of about 43 degrees, having assumed the natural angle of repose of material of this character. The bottom part of the crater centered over the top of the small amount of 14-inch casing still left in the well and was therefore of small diameter. The crater, therefore, was about 250 feet diameter at top, tapering to a hole about 20 feet in diameter at the bottom with sides at angle of 43 degrees with one bench about half way between top and bottom of the hole.

As debris sloughed into the hole from

(Continued on Page 74)

From left to right: Costica Lupa, helper; Grady Chupp, assistant; M. M. Kinley, fire-fighter, at the gas fire at Romana-Americana No. 160 well, Morenci, Rumania.

Many Difficulties at Hoh Head Well

Cost of Transporting Equipment to Site Was $36 a Ton. Forest and Thick Underbrush Added to Driller's Troubles

By Harold Olson

ABERDEEN, Wash., Mar. 7. — How would you like to pay $20 a ton to transport derrick timber and drilling machines 3 miles? That is what it cost the Leslie Petroleum Co., which expects soon to complete its Washington State discovery well at Hoh Head, western Jefferson County.

All in all, it cost the Leslie company $36 a ton to land its equipment at the well site. This was unevenly divided as follows: First 1,500 miles, Long Beach, Calif., to Seattle, $6 a ton; next 200 miles, Seattle to the mouth of the Hoh River via barge, $10 a ton; last 3 miles, mouth of the Hoh to site, $20 a ton.

And thereby hangs a tale of the heroic work and great wilderness obstacles to overcome.

Irvine Stewart, geologist, located No. 1 Sims in about the center of the most densely timbered region in the world, where abundant rainfall rears a vast virgin forest, the floor of which is virtually impassable on account of thick underbrush literally sprinkled with devilclub. Loggers have been hacking away at this forest for 50 years but still are no nearer than 45 miles in any direction to No. 1 Sims. The derrick stands in totally undeveloped country.

In January, 1921, a hurricane swept the Olympic Peninsula, cut great swaths in the timber and piled up twisted, broken trees in great windfalls. The geologists also chose the center of this blowdown region for the well.

The State was building a highway through the Olympic timberland but it was not ready, so Leslie Petroleum shipped its cable tool rig in by water, for the location is but 1,500 feet from the Pacific Ocean. The first two stages of this transport were comparatively easy, but the last was "one for the book," according to the drillers.

Only one man dares run his boat in the rock-infested waters of the Hoh region. He is Capt. E. L. Fletcher, reared near there, and skilled in small craft navigation. He took barge loads of equipment out of the Hoh River and landed them through the surf at Hoh Head, below the site of the well.

A high bluff borders the sea there. The coast is known as the "Giant's Graveyard," on account of the huge rocks that stand sentinel in the surf and out beyond. The first barge load contained a steam donkey engine and wire rope. With this the equipment was hoisted up the 120-foot cliff to the sharp slope above.

The donkey also lifted up a tractor. A trail wide enough for the "cat" was slashed through the windfalls and underbrush, after which the tractor sledded the material up the slope to the site.

This work took many weeks and was accomplished with the aid of peninsula settlers wise in the ways of the wilderness. Not a single accident marred the job.

A barge load of casing was conveyed in by the same route.

Nels C. Graham, veteran driller, went on the job June 1, 1931, and had the outfit ready two months later. Spudding in took place August 1, just a week before the road to the well was finished. Now No. 1 Sims is served by a state highway that runs within 7 miles, a county road down to Oil City, the company camp at the mouth of the Hoh, and a narrow plank road between Oil City and the well, 2½ miles.

E. J. Lesser, president of Leslie Petroleum, estimates that the firm saved nearly three months' time by taking its rig in by way of the beach.

Obstacles met by the geologists in mapping this tangled wilderness matched those of transport. Exposures are rare, vegetable mulch is from 1 to 3 feet deep

(Continued on Page 75)

Surveyors staking out highway near the well.

Bringing in a barge load of equipment over the Hoh River bar. The cliff in the distance is the one up which the Leslie machinery was hoisted.

Oil City, Wash., where the Leslie company has its camp. Petroleum may mean a rosy future for this hamlet, shown here in its full extent. Oil City was platted 17 years ago when a wildcatting outfit drilled near the present No. 1 Sims only to lose the hole at 1,100 feet.

In a tangled jungle of the big woods region on the North Coast stands this 123-foot wooden derrick, No. 1 Sims, Leslie Petroleum Co.'s Washington State discovery well, which is reported to have logged five pay sands between 800 and 1,300 feet. Location is in Section 12-26-14w, which is 1,500 feet from the Pacific Ocean in the extreme northwest corner of the United States.

As To Restrictions Upon Production

A.P.I. President Tells Californians Industry Needs Legal Regulation to Prevent Economic Waste and Avoid Disaster

By Amos L. Beaty
President, American Petroleum Institute*

Under this subject—restrictions upon production—I shall discuss restrictions of a voluntary nature and restrictions by force of statute, restrictions upon gasoline production and restrictions upon crude oil production.

And notwithstanding the broad scope of discussion already indicated it may not be out of place to take in even more territory for a moment and say something about marketing. This is really an essential preliminary, because marketing conditions have a direct bearing upon the necessity of controlling production. There is scarcely a town of 3,000 inhabitants in the United States in which there are not from 10 to 15 important companies marketing their branded products through various separate service stations. It has come to this in the last few years, and the number of competing units is not growing less. Consumers read about low prices at refineries but are not impressed by what they pay at the stations, including taxes. Many of them fail to realize that they are paying for long division. It is not difficult to see that if the divisor increases until the average volume of gasoline per station is only 40 or 50 gallons a day any compensatory price must be such as to displease the consumer.

This branch of the business is still further afflicted. Refiners sell to jobbers on thoroughly absurd bases. Not content with the competition they have they make more by giving wide margins wholesale. The dealer enjoys these margins no matter what the price may be. Many sales are made confessedly at a figure below the market on date of shipment. Anything to move the product, anything for volume, seems to be the motto. There are cases where important companies complained of cut prices across the street only to learn that the offenders were buying from them on marginal contracts. And to enumerate the devices and schemes prevalent in retailing would require more time than you would allow me.

Foolish Scrambles

Now, is there a practical and complete remedy for these things? I have no doubt that improvement is possible. It seems incredible that sensible business men will indefinitely continue foolish scrambles for business at a loss. Already there is evidence of some budding sanity. But we cannot hope to be rid of intense competition. For indefinite time there will be too many service stations. For indefinite time there will be fierce drives for business. For indefinite time marketing departments will do well to show even small profits. The day seems far distant when scarcity of product, not enough to go around, will reduce the economic surplus of stations. It is too much to hope that the law may be changed so as to allow combinations and divisions of territory, leaving only a reasonable number of competing units in each section. We might consider it a godsend if the Government should step in, fix the number of stations under a permit system and, of course, fix prices which would be fair to the public and at the same time give a reasonable return on investments. But how could the Government step in?

Granting that the business has become one charged with a public interest, what government would act? Would it be the national Government or the state government? The national Government has no power. It might regulate that portion of the business which is interstate, but the business is not all interstate, and if a national system were inaugurated it would not be long until only a small portion was interstate. There could hardly be unanimity of action by the states, and separate action by a few states would be of no use. Government ownership, either national or state, is out of the question, for this would require changes in fundamental law, to say nothing of the principle. No, we must go on as we are, I think, and be reconciled to the grind of competition, knowing that lack

(Continued on Page 76)

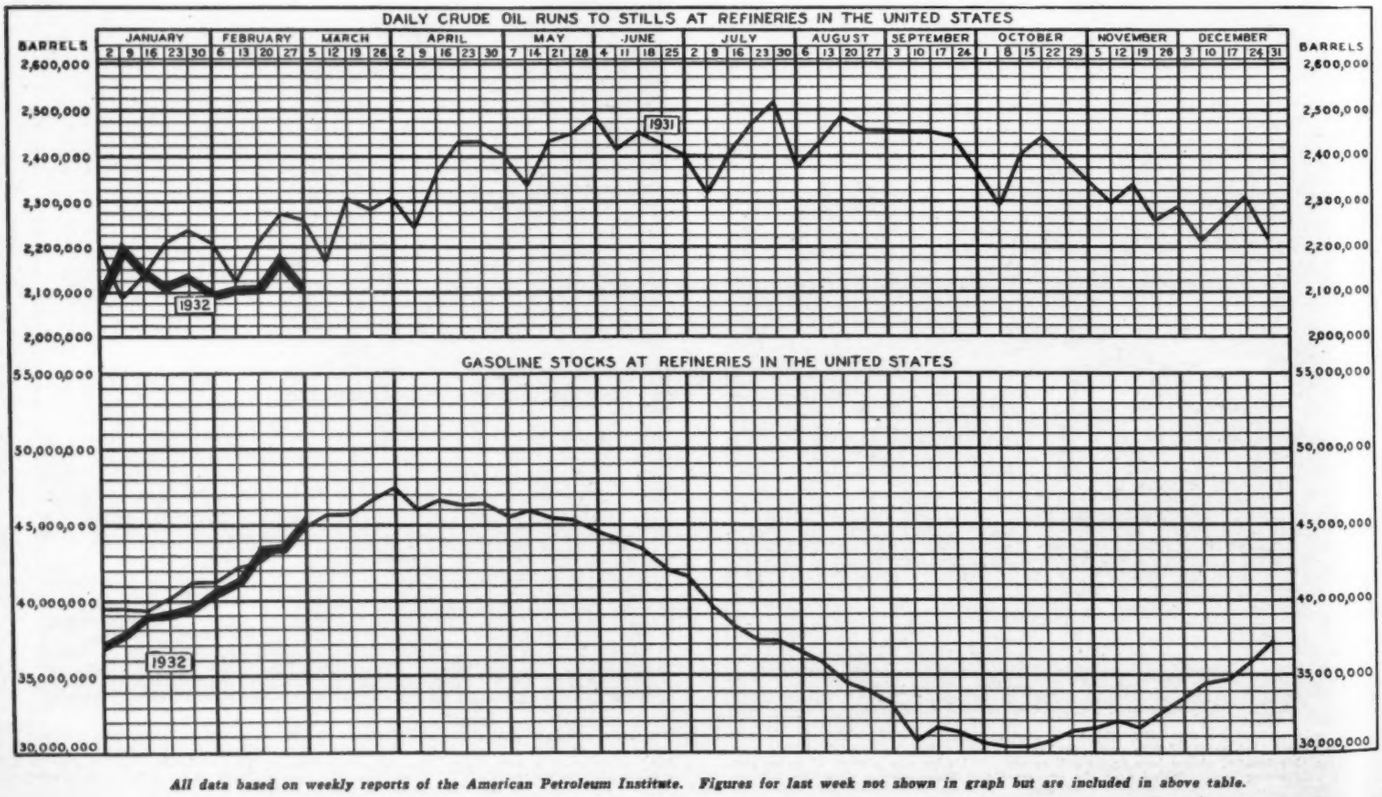
*Before California Oil and Gas Association, Los Angeles, March 10.

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending March 5:

	Week ending March 5, 1932				Week ending February 27, 1932				Week ending February 28, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100 0	422,300	6,619,000	6,500,000	100.0	458,600	6,363,000	6,887,000	100.0	440,000	7,939,000	7,300,000
Appalachian	91.8	87,300	1,772,000	1,181,000	91.8	92,600	1,770,000	1,167,000	93.8	96,300	1,480,000	1,096,000
Indiana, Illinois, Kentucky	98.9	257,600	5,759,000	4,669,000	98.9	261,700	5,760,000	4,678,000	97.5	289,600	5,140,000	3,026,000
Oklahoma, Kansas, Missouri	89.6	192,700	3,793,000	3,201,000	89.6	203,700	3,901,000	3,297,000	89.4	247,700	3,245,000	3,757,000
Texas	91.3	414,600	8,978,000	9,895,000	91.3	493,400	9,424,000	10,355,000	91.9	546,400	7,290,000	9,421,000
Louisiana and Arkansas	98.9	144,700	1,632,000	4,011,000	98.9	152,600	1,490,000	4,034,100	98.3	144,000	1,801,000	2,337,000
Rocky Mountain	94.0	29,300	1,966,000	676,000	89.4	28,300	1,999,000	693,000	93.1	37,400	1,851,000	893,000
California	97.1	419,800	14,910,000	96,042,000	97.1	441,800	14,860,000	96,125,000	98.8	464,700	16,046,000	101,315,000
Total United States	95.2	1,968,300	45,429,000	126,175,000	95.2	2,142,700	45,567,000	127,236,000	95.7	2,266,100	44,792,000	129,145,000
Texas Gulf Coast	99.8	333,600	7,179,000	7,191,000	99.8	389,300	7,478,000	7,754,000	100.0	433,600	6,030,000	7,057,000
Louisiana Gulf Coast	100.0	99.800	1,498,000	3,327,000	100.0	115,000	1,344,000	3,271,000	100.0	98,700	1,591,000	1,266,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) gas and fuel oil stocks.



All data based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above table.

The problem today is—

—how to make the most gasoline of the highest anti-knock value from every barrel of crude at lowest cost

The answer is—

—Dubbs cracking

Dubbs crack the whole crude—and especially Dubbs crack straight run gasoline and naphtha if you have any

Then all your gasoline will be Dubbs cracked gasoline

Special new low royalty rate for cracking the gasoline fraction

1932 will be a good year for Dubbs refiners

Universal Oil Products Co
Chicago Illinois U S A

Dubbs Cracking Process
Owner and Licensor

The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

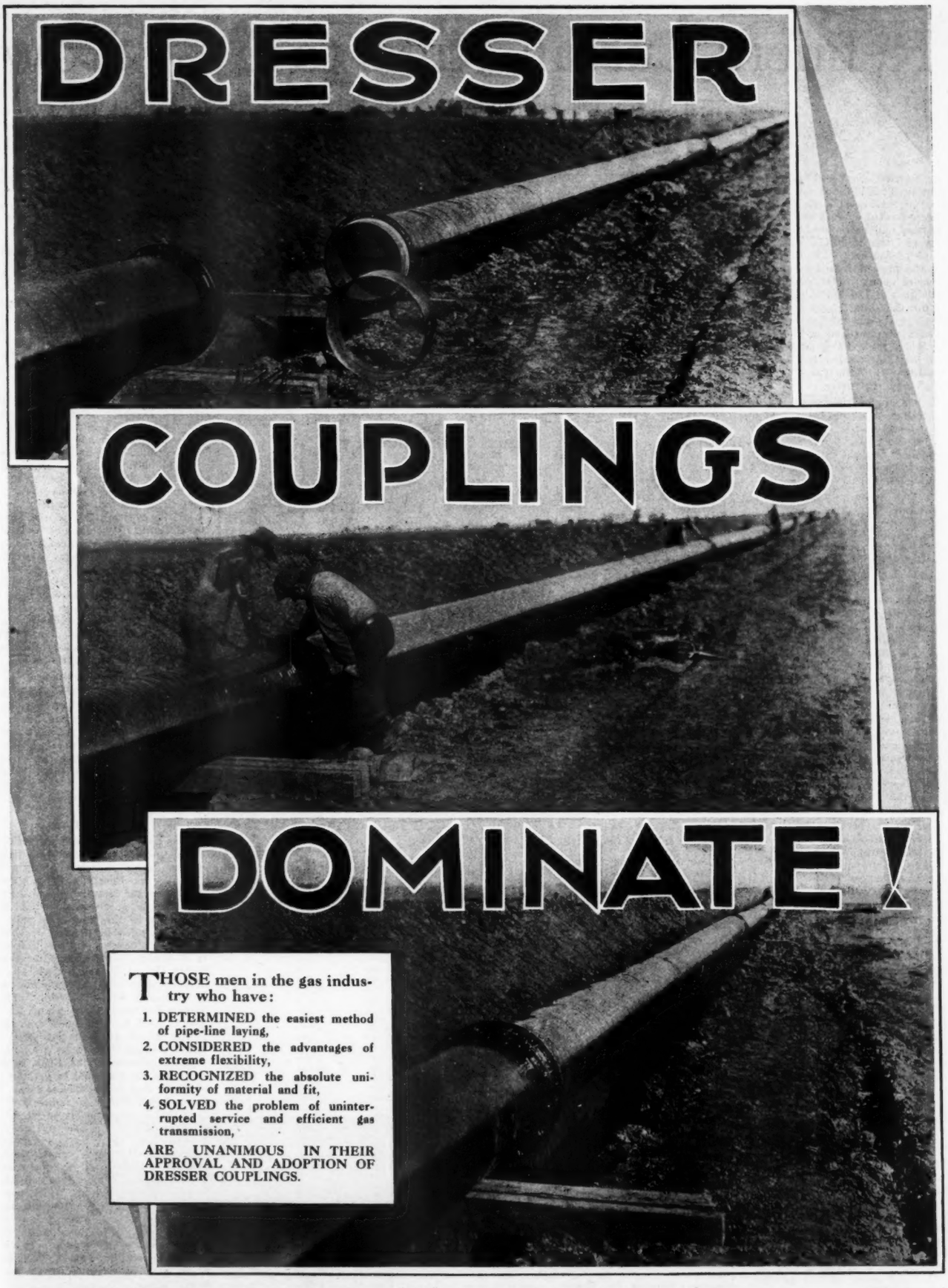
Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - - P. C. Lauinger
General Manager - - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - - C. O. Willson
Technical Editor - - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - - - E. Klappenbach
Circulation Manager - - - - - - - Simon H. Rourke

DISTRICT ADVERTISING OFFICES

C. L. CAIN - - - - 101 Park Ave., NEW YORK CITY
C. R. FARMER - - - - - - - - - - - -



THOSE men in the gas industry who have:

1. DETERMINED the easiest method of pipe-line laying,
2. CONSIDERED the advantages of extreme flexibility,
3. RECOGNIZED the absolute uniformity of material and fit,
4. SOLVED the problem of uninterrupted service and efficient gas transmission,

ARE UNANIMOUS IN THEIR APPROVAL AND ADOPTION OF DRESSER COUPLINGS.

S. R. DRESSER MANUFACTURING CO.
BRADFORD, PENNA.

Refiners Curtail Runs to New Low

March Operations Designed to Boost Prices to a Profitable Level. Present Schedules Below All Since May, 1926

By W. T. Ziegenhain

During March the schedule of refinery crude runs in the Mid-Continent has been established at the lowest level since May, 1926. The estimated operations show that the total runs will be reduced to 401,155 bbls. daily and this is 10,125 bbls. below the average of February. Compared to a year ago, the present schedule represents a reduction of about 48,000 bbls. per day and a reduction of 130,000 bbls. from the schedule for the same month two years ago. The highest schedule of operations for all times was reached in August of last year when the runs totaled 590,000 bbls. and it is interesting to note that the present runs of 400,000 bbls. came only six months thereafter.

This simply emphasizes the poor prices refiners are receiving for their products compared to the posted prices paid for crude and also to the lesser demand for their products brought about at this time by the seasonal slump and also by the general curtailment of business.

While the price on all grades of refinery gasoline has shown a slight strengthening over the past month, the bulk of the gasoline is being moved at or below 3¼ cents. At this price the refiner receives less than the cost of the crude in the field even though he carries on a normal program of cracking. This inequality has not prevailed over a period of months without an adjustment of crude prices downward. This does not seem to be justified at this time however, for crude production has been curtailed well below demands so that stocks are being drawn upon and in a few instances refiners are not getting as much oil as they would like to run. The answer this time does not seem to be in reducing crude prices but in a program of raising the gasoline price. How this is to be done remains to be seen but one very constructive factor now is the curtailing of refinery runs, such as is being witnessed this month.

In the Mid-Continent area 48 plants will remain idle during March. Of this number 18 are located in North Central Texas. In this section competition has been very keen in the past and because of the large number of small plants in which the operating costs were relatively high, the present low market prices have worked more than a hardship on their operators. In a few instances the refiners have advised the producers that unless market conditions improve as the result of curtailing runs it will be necessary to close down additional plants and in all, the stage is being set for a definite turn of events.

Even the large, well-balanced plant can not make money at present prices and a fair estimate of what gasoline should be selling for to permit the well rounded refining organization to pay operating and sales expenses has been set between 4 and 4½ cents. Obviously, the refiner doing any thing but cutting runs is simply adding to his losses.

Oklahoma Operations

Oklahoma refiners show the largest decrease in runs for March and this has been brought about by a general curtailment of operations. There is a strong likelihood also, that as the month progresses further cuts will be made in the refinery runs. Companies curtailing their operations include the Continental Oil Co., the Empire Oil & Refining Co., the Pure Oil Co. and many of the smaller organizations.

During March one Oklahoma plant which operated in February will be shut down while one idle plant will be started up. The plant to remain idle is that of the Anderson-Prichard Oil Corp., at Cyril. A recent fire destroyed a portion of the equipment and while this is being replaced other changes will be made which will necessitate waiting until about April 1 for the resumption of operations. The plant to resume running is the Sunray Oil Co. at Allen.

MID-CONTINENT REFINERY OPERATIONS

CRUDE RUNS TO STILLS

	1929	1930	1931	1932
January 1	508,550	535,460	478,795	405,910
February 1	506,800	519,355	470,125	411,280
March 1	514,950	531,500	449,634	401,155
April 1	530,530	555,250	497,391	.....
May 1	577,500	574,300	510,640	.....
June 1	583,030	572,250	567,915	.....
July 1	565,800	548,475	588,840	.....
August 1	555,250	526,400	590,545	.....
September 1	552,300	498,710	588,105	.....
October 1	544,720	518,800	472,190	.....
November 1	545,473	506,700	480,440	.....
December 1	540,630	478,360	456,525	.....

OPERATIONS BY DISTRICTS

	March 1		Feb. 1	Mar. 1
Districts—	Dy. crude capacity (bbls.)	Dy. crude runs (bbls.)	Dy. crude runs (bbls.)	Daily decrease (bbls.)
Arkansas	48,000	21,100	19,400	*1,700
Kansas	153,500	79,900	83,900	4,000
North Louisiana	40,250	26,700	26,350	*350
Oklahoma	309,300	139,700	146,600	6,900
North Central Texas	204,000	85,075	85,550	475
West Texas	139,900	34,610	33,930	*680
East Texas	79,800	14,070	15,550	1,480
Total	975,450	401,155	411,280	10,125

*Increase.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
All State Refining Co., Thrall	3,000	1,500	(*)
American Refining Properties, Wichita Falls	6,000	(*)	(*)
Apache Refining Co., Sunray	4,000	(*)	(*)
Archer Refining Co., Megargel	1,500	200	150
Atlantic, Pacific & Gulf Refining Co., Wichita Falls	5,000	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	2,000	2,500
Dale Oil & Refining Co., Electra	4,000	(*)	(*)
Deer Oil Corp., Brownwood	2,000	(*)	(*)
Dixon Creek Oil & Refining Co., Kings Mill	3,500	1,000	1,000
Echotex Refining Co., Echo	300	100	100
Empire Oil & Refining Co., Gainesville	5,000	3,000	3,000
Falls Refining Co., Wichita Falls	2,000	500	(*)
Gulf Refining Co., Fort Worth	10,000	2,600	6,000
Humble Oil & Refining Co., Breckenridge	2,000	(*)	(*)
Humble Oil & Refining Co., Chilton	4,000	400	750
Humble Oil & Refining Co., Boggy Creek	5,000	1,975	2,050
Iowa Park Producing & Refining Co., Iowa Park	2,500	(*)	(*)
Kent Refining Co., Minerva	2,000	(*)	(*)
Kent Refining Co., Angus	4,000	(*)	(*)
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	(*)	(*)
Macmillan Petroleum Co., Isom	3,000	(*)	(*)
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	4,300	4,300
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	3,000	4,000
Magnolia Petroleum Co., Corsicana	5,000	4,200	4,500
Marathon Oil Co., Fort Worth	5,000	3,000	3,000
Muenster Refining Co., Muenster	300	(*)	(*)
Olney Oil & Refining Co., Olney	2,500	1,200	1,500
Oriental Oil Co., Dallas	5,000	1,500	1,500
Panhandle Refining Co., Wichita Falls	5,000	1,500	2,350
Petroleum Refractionating Co., Pampa	6,500	6,000	(*)
Phillips Petroleum Co., Isom	18,000	16,000	16,000
Primrose Refining Co., Wichita Falls	2,500	2,000	2,000
Sinclair Refining Co., Fort Worth	5,000	2,500	2,500
Simms Oil Co., West Dallas	4,500	3,000	3,000
Southland Refining Co., Olney	1,000	(*)	(*)
Seymour Refining Co., Seymour	350	(*)	(*)
Star Refining & Producing Co., Fort Worth	1,500	800	1,000
Superior Refining Co., Tiffin	3,000	(*)	(*)
Taylor Refining Co., Taylor	6,000	1,700	1,200
Taxman Refining Co., Wichita Falls	2,500	(*)	(*)
The Texas Company, Dallas	16,000	13,000	14,000
The Texas Company, Amarillo	4,000	2,700	2,700
Tidal Western Refining Co., Burkburnett	3,000	(*)	(*)
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,000	1,800
Texas Pacific Coal & Oil Co., Caddo	1,000	600	600
Waggoner Refining Co., Electra	3,400	1,200	2,000
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	2,500	3,000
Young Refining Co., Archer City	250	(*)	(*)
Total	204,000	85,075	85,550

*Shut down.

(Continued on Page 73)

The total runs for the Oklahoma group will be 139,700 bbls. per day which is nearly 7,000 bbls. below the runs of a month ago.

North Central Texas

There has been practically no change in the refinery crude schedule for the North Central Texas group of refiners. In March this area will run approximately 85,000 bbls. daily. There has been a general curtailment of runs but this has been offset by the resumption of operations in the All State Refining Co. plant at Thrall and the Petroleum Refractionating Co. at Pampa.

West Texas

West Texas refiners will maintain about the same schedule of runs during March as they did in February. The present schedule calls for total runs of 34,610 bbls. daily and this compares with 33,933 bbls. during the previous month. The only changes of importance are the resumption of operations in the Bluebonnet Oil & Refining Co.'s plant at Wickett and the closing down of the Humble Oil & Refining Co.'s plant at McCamey. The latter plant has operated irregularly for many months, supplying local demands. During February the actual runs were more than shown in the accompanying table but was occasioned by the decision to shut down the plant over March.

Improvements and replacements are being made in the Pecos plant of the Burford Oil Co. and operations are expected to be resumed late in the month.

Kansas Operation

Kansas refiners will run 4,000 bbls. less crude during March than they did during February, the reduction being due to shutting down the Altitude Petroleum Corp.'s plant at Chanute and to a general curtailment of runs in a great number of plants. Other than the shutting down of this one plant there there is no change in the status of the list of Kansas refineries.

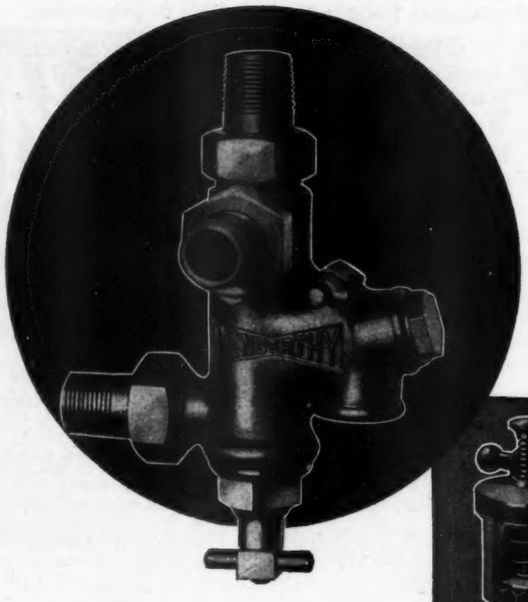
East Texas

The East Texas group of refiners continue to hold runs to a low figure and during March will run slightly less oil than during February. The schedule of operations for March indicate that 14,070 bbls. will be processed daily and 9 of the 19 plants in this new field will remain idle. Included in the list of shut down plants for March are three that operated in February, namely the East Texas Refining Co. at Friars Switch, the W. B. Mackey plant at Gladewater and the Taylor Refining Co. at Taylor. The East Texas Refining Co.'s plant at Friars Switch will be remodeled and the company's plant at Longview will run a larger volume of crude as a result.

Some refiners in the East Texas area find they are not able to get the volume of crude they would like to run. On the other hand, like plants in other areas, they find it unprofitable to pay the posted price for crude and sell gasoline at 3 cents. In those instances where the refiner has his own crude, there is a greater flexibility in his operations and he can generally afford to sell his gasoline below those plants which buy crude at the posted price. Because there is little chance that crude prices will be further reduced it remains for the operating plants to co-operate in the program of curtailing runs so that gasoline prices may be advanced to a profitable level.

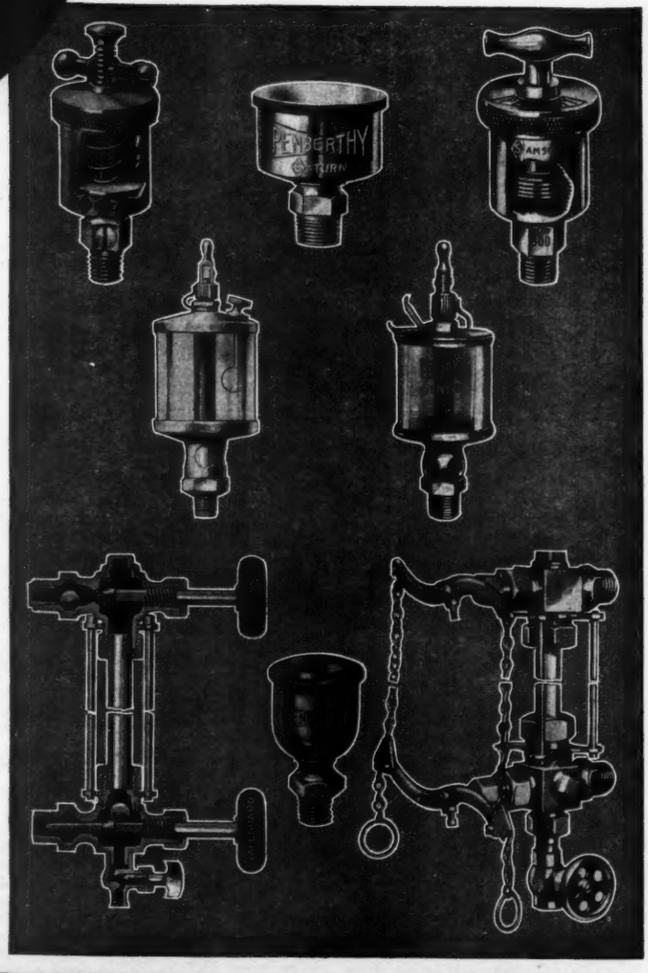
North Louisiana and Arkansas

North Louisiana and Arkansas refiners will not alter their operations greatly during March. The Bayou State Refining Co. at Hosston will not operate but this is the only change in the status of operating and shutdown plants.



ECONOMY SUGGESTS

PENBERTHY PRODUCTS



THE fact that such a large number of operating organizations in the "Close Buyer" class have for years used only these injectors, liquid level gages and lubricating devices, is significant of the fundamental economy of Penberthy Products.

These Penberthy Products are cast from new brass . . . not made from spun or stamped brass. The design and workmanship allow for the rough handling that is probable.

Penberthy Products are carried in stock by supply companies everywhere.

PENBERTHY INJECTOR COMPANY

ESTABLISHED IN 1886 DETROIT CANADIAN PLANT, WINDSOR, ONT.

BUREAU OF MINES SECTION VICTIM OF FALSE ECONOMY

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 7.—Although the Budget Bureau and the House Committee on Appropriations made satisfactory allowances for oil and gas investigations by the Bureau of Mines, amendments were offered and adopted on the floor of the House that will greatly curtail these activities if the Senate does not restore the original allowances for this work.

On motion of Representative Douglas of Arizona the appropriations for inquiries and investigations and dissemination of information concerning the mining, preparation, treatment and utilization of petroleum and natural gas, including economic conditions affecting the industry, were cut down from $221,215 to $146,215, a reduction of $75,000. As approved by the Budget Committee and reported by the Appropriations Committee, the amount allowed for oil and gas investigations was $11,645 below the appropriation for the fiscal year ending June 30, 1932.

This decrease in the appropriation of $75,000, or about 34 per cent, will cause a reduction of about 35 per cent of the personnel of the oil and gas section of the Bureau of Mines. It will seriously affect the work being done in the Dallas and Bartlesville area as the current investigations there cannot be completed by June 30 of this year.

The semiannual gasoline survey may be discontinued by this reduction if it is sanctioned by the Senate.

The Petroleum Division has about 60 employes and drastic readjustments would have to be made if the Douglas amendment becomes law. Possibly 40 per cent of the personnel will have to be eliminated.

The work on natural gas, which has been carried on for almost 10 years cooperatively with the natural gas department of the Natural Gas Association, with reference to the flow of gas through pipe lines and methods of gauging the capacity of natural gas wells without making open flow tests, would be retarded and a large part of the field investigations, which are so essential in accumulating data on this subject, could not be made nor the result on work already done published.

Research work now under way relates largely to East Texas, some of the important investigations being "Bottom Hole Pressure and Temperature," "The Amount of Gas Dissolved in Various Crude Oils" and "Flow of Oil and Gas Through Sands," and these studies would be detrimentally affected, and the results of work done could not be made available if the curtailed appropriation is approved by the Senate.

Work on refinery problems started more than a year ago to find ways of refining the black oils of the Rocky Mountain area would be destroyed if the House amendments are not disagreed to by the Senate. A considerable amount of work has been done on this study.

The House bill carrying these appropriations will soon be in the hands of the Senate Committee on Appropriations, which will hold hearings probably lasting four or five days. Within two weeks from this time the bill will have become a law. Very prompt action should be taken to have the measure amended in committee or on the floor of the Senate if these oil and gas investigations are to be continued. There is hardly time to wait upon the delivery of protests by mail. Telegrams would be more effective in placing protests before the Appropriations Committee of the Senate.

High Spots in Field News

KANSAS
Increase in work in McPherson County. New potential tests in Ritz-Canton Field indicate decline in production.

NORTH LOUISIANA, ARKANSAS, MISSISSIPPI
Shelby County wildcat gets showings. Three dry holes in Zwolle district. Progress in deep tests in that area.

GULF COAST
Montgomery County now center of interest. New horizon at Port Barre Dome. New sand at Esperson in Liberty County.

SOUTHWEST TEXAS
Zapata wildcat indicates another sand. S. R. C. Pool takes best saturated core. Extension at Pettus. Zavala test delayed.

OKLAHOMA
Oklahoma City Field extended half mile west. Calvin sand development has been curtailed 60 days in Greater Seminole area.

CALIFORNIA
Find good well in third Callender zone at Dominguez. State output 8,850 bbls. below potential and further reduction expected.

ROCKY MOUNTAIN AREA
Hobbs Pool well gauges 10,500 bbls. New test in Fremont County, Wyoming. Greasewood Dome development plans are delayed.

WEST AND NORTH TEXAS AND PANHANDLE
Crockett County coming in for play. Increased interest expected in West Texas. Nine locations in Ranger and 31 in Wichita Falls.

EAST TEXAS
Federal court upholds commission order by temporary injunction. Now 4,400 wells in field; 110 new locations during week and 86 completions. Check made on pumping wells, dead wells and those requiring agitation.

Late Fields

OKLAHOMA

The production of the Oklahoma City Field dropped to 66,372 bbls. from 133 wells on March 7. There are 879 oil wells in the field.

Winona Oil Co.'s No. 2 Fish, SE cor. NW NE Section 30-7-8, in the Fish Pool, in Seminole County, made 270 bbls. of oil in six hours from sand at 3,005-51 feet. It will be given a potential test before shutting down for the proration period.

The Texas Company's No. 1 Liza, in Section 19-7-8, Fish Pool, flowed 336 bbls. in 12 hours after two 20-quart shots.

Mid-Continent Petroleum Corp.'s No. 3 Archer, in Section 14-6-3, in the West Asher Pool, made 190 bbls. of oil after a 10-quart shot from a total depth of 3,552 feet.

The new field 5 miles south and 2 miles west of Duncan was extended a quarter of a mile south by Dunmar Oil Co.'s No. 1 Donham, NW cor. NE NE Section 11-2s-8w, Stephens County. The well made 8,000,000 feet of gas a day from sand at 1,382-90 feet. It is the second gas well completed in the new field during the week.

G. L. Pace's No. 2 Allen, NW cor. SE SE Section 3-2s-8w, on the west side of field, made 2,500,000 feet of gas a day from sand at 1,442-48 feet.

Continental Oil Co.'s No. 2 Dare, NW cor. SW SE Section 2-2s-8w, on the extreme southeast edge of the field, gives promise of finding a deeper producing sand. A show of oil was found in sand at 2,093-2,100 feet and the operators are testing. The well missed the 1,300-foot sand and found water at 1,670-76 feet in sand.

J. C. Chambers and others' No. 1 Pollard, NW cor. SE SE Section 2-2s-8w, which extended the production one location last week, tested 4,000,000 feet of gas a day from sands at 1,394-1,407 feet and 1,415-28 feet.

Production was extended approximately a half mile west in the Oklahoma City Field by R. A. McArthur and others' No. 1 Pruitt, NE cor. NW SE Section 22-11-3w, which was cleaned out and flowed 330 bbls. in nine minutes, with gas at the rate of 55,000,000 feet per day. The oil was found in the Wilcox sand at 6,440-6,558 feet. This producer is expected to lead to other development in this part of the field.

In the north end of the field, Grison Oil Corp.'s No. 1 Turner, NW cor. SW SE Section 34-12-3w, was bailed down and is estimated to be a large well. The total depth is 6,530 feet and the 9-inch casing was landed at 6,330 feet. When tankage is erected the well will be gauged.

KANSAS

Mid-Kansas Oil & Gas Co.'s No. 1 Converse, NE cor., Section 30-24-18w, Edwards County, is a new wildcat location. Rig material was being moved to the location on the last reports. It is in the northeast corner of the county several miles from any production.

Deep Rock Oil Corp.'s No. 1 Pasek, C SE, Section 3-14-11w, Russell County, was drilling at 3,415 feet. It is a wildcat location on a block of 10,000 acres.

G. P. Dickey's No. 2 Williams, SE cor. NW, Section 26-19-2w, has cemented casing on top of the chat and is shut down preparatory to drilling into the pay. It is located on the west side of the field where the greatest activity in the Ritz-Canton Pool is now under way.

There are seven tests drilling on the west side of the Ritz-Canton Field by the following companies: E. B. Shawver, Vernon Oil & Gas Co., Lario Oil & Gas Co., Youker and others, G. P. Dickey, Spring-Rose Drilling Co., Derby Oil Co. and The Texas Company.

Twin Drilling Co.'s No. 1 Farber, SW cor. SE, Section 16-20-1w, southeast of the production in the Ritz-Canton Field, found water in the Viola lime at a total depth of 3,490 feet and is shut down.

Helmerick and Payne's No. 1 Russell, NW cor. SW SE, Section 12-19-2w, in the northwest part of the Ritz-Canton Field, was drilling at 2,948 feet and nearing the chat formation. It is located a quarter of a mile north of a Viola lime well.

Gypsy Oil Co.'s No. 1 Steckel, C NE NW, Section 33-19-10w, a wildcat test in Rice County, located about two and one-half miles northeast of the Isern Pool, found oil in the Silicious lime at 3,312-24 feet last week and is still shut down awaiting the return of better weather before making a production test.

STERLING REFUSED STAY

WASHINGTON, D. C., Mar. 5.—Associate Justice Brandeis of the United States Supreme Court refused Tuesday to grant a stay of the Federal Court injunction against Governor Sterling's East Texas oil field martial law, after application had been presented by former Gov. Dan Moody and E. F. Smith, attorneys, of Austin. Justice Brandeis was asked to grant a stay of the injunction until the case could be heard on appeal.

Meanwhile Governor Moody and Mr. Smith had filed an appeal, and a motion to advance the case with the hope of obtaining final decision during this term of court.

PRORATION OFF STRIPPERS

Proration restrictions were ordered removed from stripper wells in northeastern Oklahoma Tuesday by the State Corporation Commission upon petition of the Whitehill Oil Corp. and others, of Tulsa.

On January 1, when a drastic reduction was made for the entire State, the stripper districts went under a 10 per cent curtailment. There are around 10,000 wells in the district with a production of about 6,000 bbls. daily.

N. Y.-PENN GAS FIELD

WELLSBORO, Pa., Mar. 5.—The Allegany Gas Co.'s No. 1 Davey, on the state highway near Mansfield, Tioga County, an important wildcat, was last reported as 32 feet in the Oriskany sand at a total depth of 5,314 feet with no gas showing, a supposedly hopeless status.

Another important wildcat, Wells Co.'s No. 1 County Farm, is in the Oriskany sand at a total depth of 5,442 feet. The sand is reported to be very hard and it is reported that only 1 foot of hole was drilled in 12 hours on Friday.

In the Wayne Field in Schuyler County, New York, J. B. Reed's No. 1 Sheldon was good for 500,000 feet of gas in the top of the sand at 1,741-43 feet. Hodges and others have a 5,000,000-foot gasser in No. 1 Smith in Wayne village at 1,738 feet.

The oil well in the Rathbone Field, Steuben County, New York, which caused a furor when it came in and which is now good for 4 bbls. per day, is being deepened today.

MAGNETIC STORM

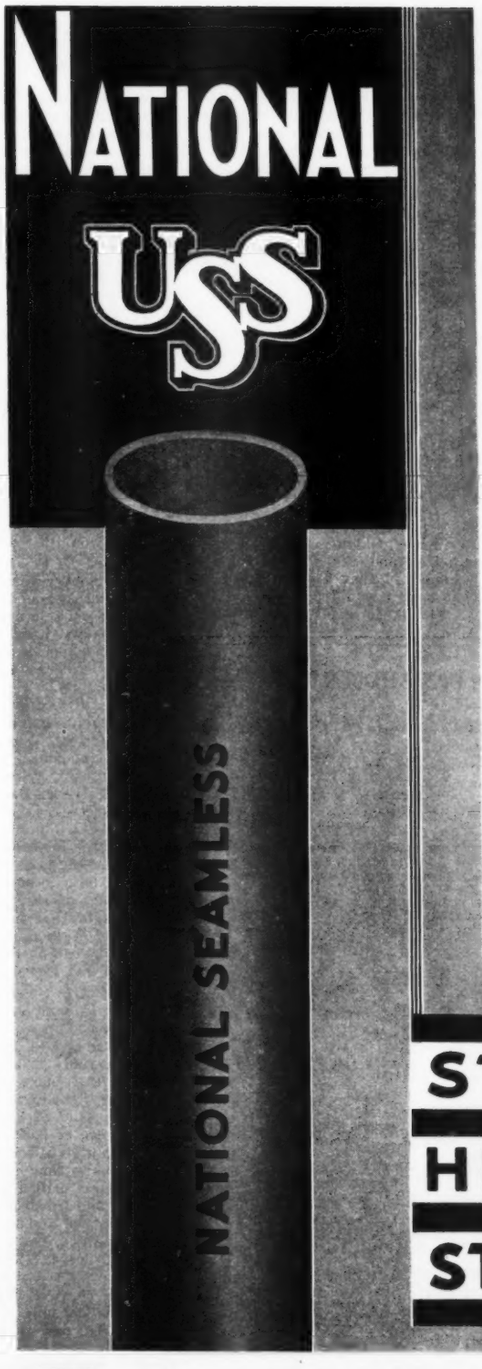
The U. S. Coast and Geodetic Survey Magnetic Observatory at Tuscon, Ariz., report a moderate magnetic storm started at 3 a.m. (C.S.T.) on March 2 and ended at 5 a.m., March 5. Their telegrams follow:

"Storm began Second. Nine. Moderate."

"Storm ended Fifth. Eleven."

CRUDE OIL STOCKS INCREASE

Pipe line and tank farm net domestic crude oil stocks east of the Rocky Mountains increased 1,345,000 bbls. in the month of January, according to returns compiled by the American Petroleum Institute from reports made to it by representative companies. The net change shown by the reporting companies accounts for the increases and decreases in general crude oil stocks, including crude oil in transit but not producers' stocks at the wells.



Backed BY THE MOST EXACTING STANDARDS IN MANUFACTURE · · ·

[U S S Chromium-Nickel Alloy Steels are produced under the licenses of the Chemical Foundation, Inc., New York: and Fried. Krupp A. G. of Germany.]

Behind every piece of Stainless and Heat Resisting tubular material that bears the NATIONAL mark, is a code of uniformity and of precision long adhered to, which has made NATIONAL-SEAMLESS Pipe and Tubes the standard material for a wide range of uses.

The same integrity and exactness which have always gone into NATIONAL products for the uncompromising demands of many industrial uses are now applied to the series of U S S Chromium-Nickel Alloy Pipe and Tubes.

Effective resistance to corrosion, unusual ductility, and improved strength at high temperatures characterize this scientifically made, fully annealed, austenitic steel. NATIONAL engineers, metallurgists, and laboratory technicians are at the service of Refinery designers and operators to aid in determining the best application of Stainless and Heat Resisting Steel Pipe and Tubes to any particular requirement.

STAINLESS AND HEAT RESISTING STEEL PIPE AND TUBES

USS STEEL

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

QUALITY PRODUCTS — Dependable Service

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES

American Bridge Company
American Sheet and Tin Plate Company
American Steel and Wire Company
Carnegie Steel Company
Columbia Steel Company
Cyclone Fence Company
Federal Shipbuilding and Dry Dock Company
Illinois Steel Company
Minnesota Steel Company
National Tube Company
Oil Well Supply Company
The Lorain Steel Company
Tennessee Coal, Iron & R. R. Company
Universal Atlas Cement Company

Oklahoma Production Off 13,000 Barrels

Demand for Crude Oil Expected to Increase Daily Output This Month. New Completions in Oklahoma City Field

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Crude oil production in Oklahoma during the week ending March 5, declined approximately 13,600 bbls. a day from the figures of the previous week. The State's average for the same seven days was 418,000 bbls.

Activity in the Oklahoma City Field increased with the announcement of four new locations during the week, and the field entered a new proration period on March 1 with a higher allowable. Plans are underway to remove all the underproduction during the next 45 to 60 days.

During the week five wells were completed in the Oklahoma City Field with an initial production rated at 97,900 bbls. This is the largest number of wells completed in the field in any one week this year. The daily average production of the field during the same week was 93,100 bbls.

An important location was announced in the extreme southwest part of the field, the Indian Territory Illuminating Oil Co.'s No. 1 Lord, SE cor. NE NE, Section 35-11-3w. It is located about a quarter of a mile west of the nearest production and will prove considerable acreage if a commercial production is found.

Leasing in the State is quiet with the exception of a few areas where checkerboarding is being done and in the vicinity of drilling operations in the Greater Seminole area. Lincoln County continues to be one of the most active in leasing, due to several wildcat wells now drilling. Oklahoma County is now quiet after considerable work during the last few months.

It is expected that Oklahoma will continue to maintain an upward trend in demand for crude oil, and the production at Oklahoma City is expected to increase with the demand. The new proration order raises the allowable from 94,000 bbls. a day to 102,000 bbls. for the first 15 days of March. The lease stocks have been reduced during the last two weeks.

Many believe if the East Texas Field production balances or nearly balances actual demand, this will aid Oklahoma in regaining its crude oil market which it lost last summer during the military shut down in August, September and the early part of October.

It was suggested at the meeting of Oklahoma City operators that the umpire recommend to the Corporation Commission changing the allowable in order to classify all deferred underage as current underage and in event of an increase in the allowable, that underage be given preference. Ray M. Collins announced he had a plan for correcting the situation and fixed April 1 as the date for making the change. It is believed the change will permit wiping out of the underage during the month of April, should the demand increase. Mr. Collins also said that hereafter instructions would be issued to operators along with the commission's orders.

Pipe Line Increase

Oklahoma Pipe Line Co. has started work on its booster station on the company's pipe line from the Oklahoma City Field, located near the town of Wellston, in Lincoln County. It is expected work will be completed in two weeks, when capacity of the line will be increased from 18,000 bbls. a day to 27,000 bbls. a day. The Oklahoma Pipe Line Co. has been shipping near capacity for the last couple of months, and it is believed that when the work on the station is completed nominations from the Oklahoma City Field will be increased.

The February total production from the Oklahoma City Field was 2,470,696 bbls., compared to 3,347,389 bbls., during January. Pipe line shipments for February totaled 2,634,214 bbls. and in January the total was 3,369,831 bbls., indicating storage was reduced 263,518 bbls. during the month of February, due to increases in purchases late in the last half of the month by several companies.

New Completions

Tom Slick Oil Co.'s No. 3 Terminal, SW cor. SE NW, Section 3-11-3w, Oklahoma City Pool, made 6,602 bbls. of oil in 3 hours and 45 minutes from the Wilcox sand at 6,322-6,484 feet. Gulf Oil Corp. of America's No. 2 Garrett-Rucker, in Section 2-11-3w, made 1,344 bbls. of oil in five hours from the Wilcox sand at 6,227-82 feet. Harrell-Davis Oil Co.'s No. 1 Fish, NE cor. SE SE, Section 22-11-3w, in the southwest part of the field, which has been shut down for more than a week flowed 362 bbls. of oil the first hour and 1,550 bbls. in four hours from the Wilcox sand at 6,430-6,505 feet. The gas was estimated at 104,000,000 feet a day and is the largest gas volume found in any well in that part of the field.

Support the Umpire

Full support was given Umpire Collins by a large majority of the operators in the Oklahoma City Field at a meeting held during the week when the budget and plans for oil proration were approved at the general meeting. Forty-two of the sixty-six operators in the Oklahoma City Field went on record agreeing to support the umpire's office through contribution of funds. A number of companies were not represented, but only one company, the Champlin Refining Co. voted no, while four other representatives cast conditional votes.

This compares favorably with 22 operators who have been supporting the program in the past. Harmony was brought about through the appointment of Mr. Collins as field umpire.

The average expense of maintaining proration in the Oklahoma City Field is estimated around $4,000 per month, but it was agreed that assessments for the present month would be based on a budget of $4,500, in order to maintain a revolving fund. The cost of the proration will be figured on a percentage based on the amount of crude produced and shipped during the month.

Committee to Assist

Ray M. Collins was given authority by the representatives at the meeting to name a committee of five to work with him in adjusting existing conditions, the committee to report at another general meeting March 15. Mr. Collins named W. U. Paul, Acme Oil & Gas Co. and E. D. Guiding, Phillips Petroleum Co., after the meeting closed, the three other members will be named in a few days.

It was also decided at the meeting that all committees were abolished, Collins said that the major operators committee had been disbanded and full authority placed in his hands. In the future when it is necessary to bring a matter of policy before the producers, a general meeting would be called. Ray M. Collins' appointment was approved by all representatives and a number said that the fullest cooperation would be given him.

In regard to the budget, Collins said that the money would be expended for office maintenance, office and field employes and miscellaneous expenses. Under the salary budget, Collins will receive $900 a month salary and expenses from the Oklahoma City Field operators as state umpire.

Marion Oil Co. has purchased an interest in the J. Prince block of leases in Township 8-18w, Washita County, southwestern Oklahoma. Work is expected to be resumed at J. Prince and others' No. 1 M. Dock, SW cor., Section 21-8-18w, during the week. It is shut down at approximately 1,138 feet. The Eason Oil Co. of Enid is interested in the case. This wildcat test may be a forerunner of a number of tests to be drilled in the southwestern part of the State. Leasing and royalty buying has increased in Washita County and in the adjoining counties. The Marian Oil Co. was recently organized by F. C. Hall and Powel Briscoe.

Calvin Sand Spotted?

The Calvin sand in the Wanette Field in southern Pottawatomie County has proven spotted. An offset to a large producer only finds a showing of oil. Mid-Continent Petroleum Corp.'s No. 3 Archer, SW cor. SE SE, Section 14-6-3, found the Calvin sand at 3,518 feet, and after taking a core at 3,520-30 feet, and landing casing at 3,515 feet, shut down for the customary time under the proration rules. It was drilled to a total depth of 3,545 feet and filled up 600 feet with oil. It was swabbed and made 30 bbls. of oil in seven hours. The company was drilling the test deeper. The direct south offset to the well is Gypsy Oil Co.'s No. 5 Horn, NW cor. NE NE, Section 23-6-3, which made 792 bbls. of oil from sand at 3,459-90 feet, and is shut down taking proration time.

Greater Seminole operators have agreed to restrict operations in the Calvin sand area for 60 days. The Calvin sand was found in the East Earlsboro Pool and in the area west of Seminole City Pool by plugging back exhausted oil wells from the Wilcox sand to the 3,500-foot horizon.

Minnehoma Oil & Gas Co.'s No. 3 Noe, NW cor., Section 17-9-6, Seminole County, was allowed to cement a whipstock at 2,782-97 feet, to shut off water and oil from the Calvin sand. After cementing the water off, the well will be permitted to produce 50 bbls. of oil a day. It has been making 2,200 bbls. of water and 160 bbls. of oil a day.

Prairie Oil & Gas Co.'s No. 1 Maxey, NE cor. SW NW, Section 1-8-6, northeast of the Bowlegs Pool, swabbed 250

(Continued on Page 41)

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	S.D. 5,502 ft.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Rig.
Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T.D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cmt. to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

CHEROKEE COUNTY

La Piere et al's No. 1 Woods, C SE SE Sec. 27-17-21	S.D. 1,504 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McGraw, NE NW Sec. 2-1s-8	S.D. 1,450 ft.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	Show wtr. 1,155-60 ft; S.D.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	S.D. 1,450 ft.

CREEK COUNTY

R. F. Moore et al's No. 1 Gillam, NE cor. SW NW, Sec. 17-17-8	Drlg. 1,000 ft.

CUSTER COUNTY

Miley Pet. Co.'s No. 1 Caldwell, NE, Sec. 12-14-14w	Location.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	S.D. 4,830 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft., T.D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Harrison, CWL SE NE Sec. 14-9-19	S.D. 650 ft.
Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-19-9	S.D. 200 ft.
Holden's No. 1 Phillips, SE cor. Sec. 3-9-18e	S.D. 1,850 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e	S.D. 2,387 ft.

KAY COUNTY

Bluebaugh et al's No. 1 Indian, C NW NE, Sec. 30-25-1	Drlg. 715 ft.
Harris & Haun's No. 1 Watson, SW NW Sec. 28-28-1w	Drlg. 1,295 ft.
W. H. Atkinson et al's No. 1 Hayes, SE NE Sec. 24-28-3	Drlg. 3,225 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2	S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w	Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 8-7-18w	Drlg. 852 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE Sec. 16-6-19	S.D. 1,542 ft.

LINCOLN COUNTY

Hilton Phillip's No. 1 Phillips, SW NW Sec. 2-14-3	Drlg. 2,850 ft.
Mote et al's No. 1 School Land, NW cor. Sec. 36-17-5	Drlg. 1,325 ft.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w	S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w	S.D. 5,515 ft.

PAWNEE COUNTY

Rockstool's No. 1 Wylie, NW NE SW Sec. 6-20-5	S.D. 1,950 ft.

PITTSBURG COUNTY

Tape Oil Co.'s No. 1 Fulton, SE Sec. 34-7-14	S.D. 1,700 ft.
J. Morrison's No. 1 Fowler, NE SE Sec. 13-7-17	Rig.
C. Kennedy's No. 1 Travis, C SW NE Sec. 15-7-14	Rig.
C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14	Rig.

(Continued on Page 61)

Increase in Work in McPherson County

Wells Drilling and New Derricks and Locations Number 47. Demand for Kansas Crude Oil Increasing. New Potentials

By W. A. Spinney
Staff Correspondent, Kansas Fields

McPherson County, the most active area in the Kansas fields, is credited with 20 new derricks and locations and 27 wells actively drilling on March 1, while on February 1 there were 6 new derricks and locations and 27 wells drilling. The increase in the number of derricks and locations show a considerable increase in operations, which will be all the more significant when the derricks are converted into actual wells drilling.

The daily average crude oil production of Kansas shows an increase over the previous week of 1,450 bbls. The daily average was approximately 101,400 bbls.

New operations include two on the Canton townsite, in McPherson County, which were preparing to spud, while work is to be resumed at an old test. Increased activity is expected during the next 30 to 60 days in the area and also in the Barton-Ellsworth Arch area, in the central western part of the State. Increased operations are expected in the new pool, near the townsite of McPherson, recently discovered by the Shell Petroleum Corp., and new tests may be attempted in the north end of the Voshell Pool. The west side of the Ritz-Canton-Decker Field is also an active area. At the present there are 12 uncompleted tests on that side of the field with no dry holes as yet. Some of the largest chat wells found in the district have been drilled in that area, as well as large Viola lime wells.

It is believed that there exists an increased demand for crude oil in Kansas. The present allowable production is 100,000 bbls. a day and an increase to 130,000 bbls. is asked of the Oil States Advisory Committee. Appearing for the Kansas operators are C. M. Fitzwilliams of the Allison-Fitzwilliams Petroleum Corp., A. S. Ritchey, Derby Oil Co., and Thurman Hill, chairman of the Public Service Commission.

New Potential Tests

New potential tests are being taken in the largest flush pool in the State, the Ritz-Canton-Decker Field, in McPherson County. It is estimated to have a potential of 70,000 bbls. a day. Operators expect to complete the taking of potentials by March 10. The potential of the field February 1 was rated at 115,223 bbls. a day from 118 wells. The potential was divided between the Viola lime zone, with 72,297 bbls. a day, and the chat formation, with a potential of 42,929 bbls. a day.

Next Important Play

If Kansas is granted an increase in its allowable the Ellsworth-Barton Arch will be the scene of an active drilling campaign. The area now covers parts of Stafford, Rush, Barton, Rice and Ellsworth Counties and some express the opinion that the productive territory may extend to the southwest from the present limits in Stafford County.

Many believe the territory will produce from a series of small pools scattered along the Ellsworth-Barton Arch. At the present time about 30 wells capable of producing from 100 to 4,000 bbls. have been completed in the district and about 10 tests are drilling.

Geophysical and seismograph instruments have been at work in these and the surrounding counties along the Ellsworth-Barton Arch, making surveys of the oil and gas possibilities.

The wildcat drilling campaign is expected to be general. Some of the major oil companies have extensive holdings in the area and smaller companies and individual operators with acreage are said to be anxious to test their holdings. Companies that do not have flush production in other oil producing states are expected to do considerable drilling in the area.

Gear & Downing's No. 1 Sauberli, C SW SE Section 29-16-9w, Ellsworth County, is a new location on the Ellsworth-Barton Arch.

Tom Palmer and others' No. 1 Pasek, C SE Section 3-14-11w, Russell County, found the top of the Siliceous lime at 3,382 feet, where it is believed a showing of oil was found. It was carrying a hole full of water found at 3,340 feet and the casing will be underreamed to the top of the Siliceous lime. It is a wildcat located on a block of 11,000 acres.

Another active area is the Carson district in Greenwood County, where the Harwood Oil Co. and others recently found a 150-bbl. well in the Bartlesville sand in Section 33-23-11. Ward McGinnis and others' No. 1 Beal, SE cor. SW Section 28-23-11, and same company's No. 1 Peoples, NE cor. NW NE Section 33-23-11, are drilling, offsetting the Harwood Oil Co.'s well. Harwood Oil Co. and others' No. 2 Carson, NE cor. NW Section 33-23-11, is a location offsetting the discovery to the east.

Shell Petroleum Corp. and others' No. 1 Johnson, in Section 35-19-3w, a wildcat well in McPherson County, located 6 miles north of the Voshel Pool, and 6 miles west of the Ritz-Canton Pool, believed to have opened a new producing area in the county, is making 400,000 feet of gas a day and 30 bbls. of oil, with 400 pounds back pressure, from the chat at 2,984-3,007 feet. The well will be used as a gas well for the present but it is estimated to be a 600-bbl. oil well. It was drilled on a block of 1,120 acres. The same company is drilling another test a half mile north. The Mid-Kansas Oil & Gas Co. is drilling an offset to the latter test.

Gypsy Oil Co.'s No. 1 Lovett, SE cor. SW NW, Section 24-19-2w, in the Ritz-Canton Pool, McPherson County, was preparing to erect tanks to make a pumping test. The well found oil in the Viola lime at 3,384-96 feet, which is considered high on structure. There was 2,100 feet of oil standing in the hole.

Olson Drilling Co.'s No. 1 Johnson, NE cor. SE, Section 29-19-1w, located a mile east of production in the Ritz-Canton Field, is a new location.

New Wells Tested

The potential flow of Lario Oil & Gas Co.'s No. 1 Law, NE cor., Section 24-19-2w, McPherson County, is 844 bbls. a day from the Viola lime, according to the test just completed. It is one of the first wells to complete its production test in the field.

The area surrounding the recently completed wildcat, Shell Petroleum Corp.'s No. 1 Blake, in Section 23-23-4w, Reno County, was given a production test February 27 and made 67½ bbls. in five hours and on the second day made 82½ bbls. of oil in 6 hours and 50 minutes, against 45 pounds back pressure. The well was shut in awaiting a pipe line connection. The total depth of the well is 3,378½ feet in the chat.

Three new locations were announced in the vicinity of the Shell Petroleum Corp.'s No. 1 Blake, in Section 23-23-4w. The Olson Drilling Co.'s No. 1 Goering, C NW NW, Section 26-23-4w, Reno County, same company's No. 1 Roberts, C NW NW, Section 25-23-4w, and No. 1 Johnson, C SW NW, Section 24-23-4w, are new locations. Prairie Oil & Gas Co. and others have a short term lease in the SW SW, Section 24-23-4w, and some express the opinion a test well will be drilled.

This area is being watched as it is well covered by leases by large oil companies and independent operators.

Several important wildcat tests are being considered in various parts of the State. It is believed the majority of these locations will be in the central western part, along the Ellsworth-Barton Arch. Some of the locations that may be drilled include the Sinclair Oil & Gas Co., which has a block on the Russell-Barton County line in Townships 15 and 16, Range 12, on which a wildcat test may be drilled. In Trego County, Central Commercial Oil Co. may drill another test well southwest of the discovery well, completed in 1929, by the same company. It produced from the Conglomerate. Mid-Kansas Oil & Gas Co. may drill a test well in the southwest part of Township 24-18w, Edwards County.

Vickers Petroleum Co. and Reynolds & Unruh are completing a block of leases in Township 19-13w, Barton County, in the south central part of the county.

The Derby Oil Co.'s No. 1 Stratman, in Section 12-17-10w, in the Stratman Pool, in Ellsworth County, has been greatly improved by a shot. It has been averaging 30 bbls. of oil an hour when swabbed after a shot. Total depth is 3,283 feet. It was given the second shot and is cleaning out.

Interesting Deep Test

In May, 1929, the Gypsy Oil Co. completed a wildcat well, No. 1 Williams, in Section 16-34-3w, near Caldwell, in Sumner County. Wilcox sand was found at 4,772-84 feet and the well made 4,000 bbls. the first 24 hours. It opened a new pool of very small area. After the flush production was off and the well was definitely on its way to exhaustion, it was decided to drill deeper to test Siliceous lime possibilities. The top of the Silicious lime was found at 4,965 feet. The hole was filled with the water from above and casing is being run preparatory to drying up the hole and drilling deeper. It is the first well thereabout to have drilled to the Siliceous lime, and is regarded as an important test.

Hugoton Gas Field

The last general report covering the Hugoton gas area issued by the Argus Production Co., the Western Production Co. and Missouri Valley Gas Co. rates the Hugoton area as third in size in the world, being exceeded only by the Amarillo, Texas, field and the Monroe, Louisiana, field. The report says that it is the opinion of some representatives of major operating companies in the Hugoton district that it will step into second, if not into first place in the list of great gas fields. Up to the filing of the report, 160 successful gas wells had been

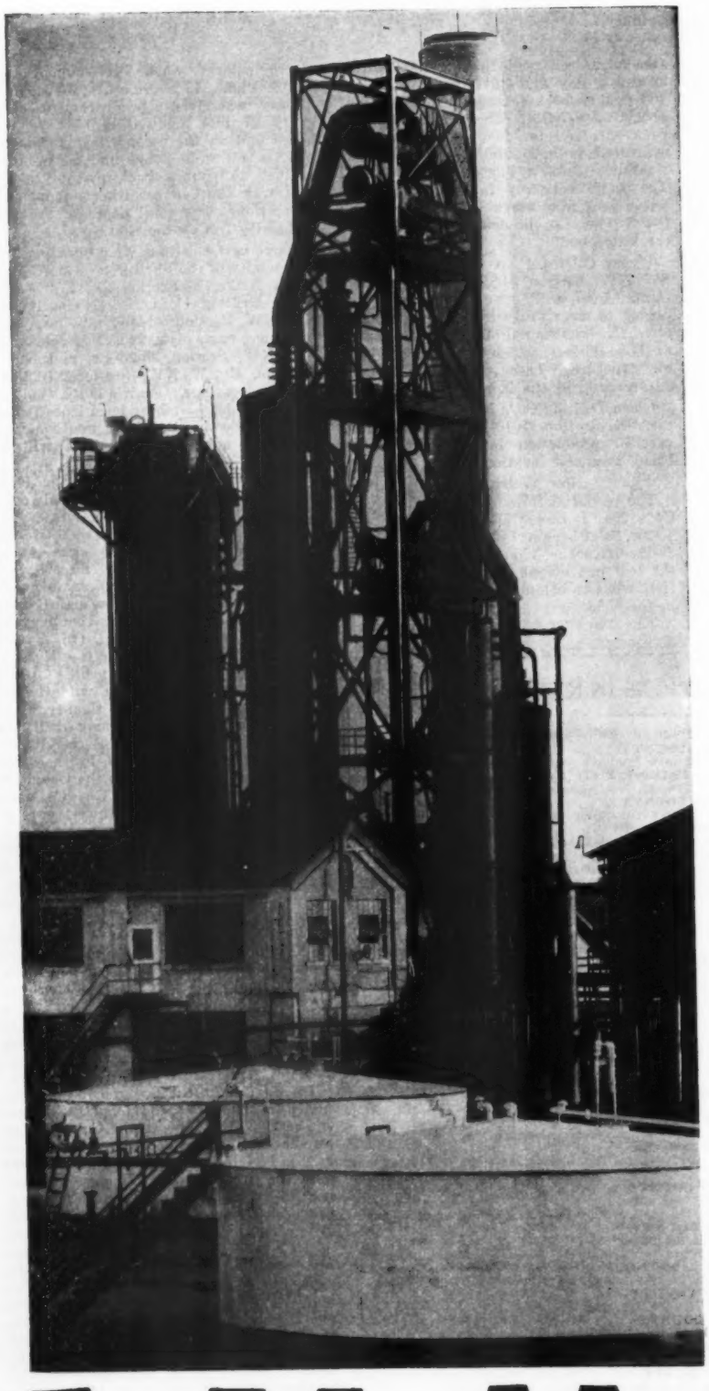
(Continued on Page 41)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	S.O. 3,225-28 ft.; 3,304-10 ft. wtr.; fishing 3,375 ft.
BUTLER COUNTY	
Ward McGinnis' No. 1 Bush, SW NE, Sec. 10-24-2	Drlg. 2,015 ft.
DICKINSON COUNTY	
Severe et al's No. 1 Lavengood, NE SW Sec. 13-13-2	S.D. 4,752 ft.
ELLSWORTH COUNTY	
R. Gear et al's No. 1 Sanberth, C SW SE Sec. 29-16-9w	S.D. 50 ft.
Alyward et al's No. 1 Stratman, SE NW SE Sec. 1-17-10w	Siliceous 3,255-71 ft.; 117 bbls. 2 hrs. shut in; estimated 2,000 bbls.; no pipe line connections.
Alladin Pet.'s No. 1 Stoddenberg, C SW Sec. 22-16-10w	Siliceous lime 3,232-47 ft.; estimated 1,500 bbls. a day; shut in.
FINNEY COUNTY	
National Ref. Co.'s No. 1 Wells, C SW Sec. 13-23-30w	Drlg. 3,900 ft.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE Sec. 7-24-1	S.D. 2,500 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor. Sec. 30-27-10w	1,635-40 ft., 3,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 1,133-42 ft., 3,000,000 ft. gas; showing oil 3,885 ft.; T.D. 3,504 ft.
Panhandle Drlg. Co.'s No. 1 Wetheral, C SE NW SW Sec. 30-28-10w	S.D. 890 ft.
McPHERSON COUNTY	
Twin Drlg. Co.'s No. 1 Farver, SW SE Sec. 16-20-1w	Drlg. 3,180 ft.
Shell Pet. Corp.'s No. 1 Johnson, SE SW SW Sec. 35-19-3w	Top chat 2,984-3,007 ft; 13,500,000 ft. gas and 600 bbls. oil; shut in.
MORTON COUNTY	
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w	T.D. 3,640 ft.; temp. abnd.
MORRIS COUNTY	
Kostle-Moseley & Hatfield's No. 1 Furney, NE SE Section 16-16-8	Spud; S.D.
Urschel et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7	Fishing 915 ft.
Hankerson et al's No. 1 Cessman, SW SE Sec. 24-16-9	S.D. 2,625 ft.
NORTON COUNTY	
Richards et al's No. 1 Colby, Sec. 17-4-21w	Rig.
OSAGE COUNTY	
Briggs & Smith's No. 1 Wood, SE NW Sec. 31-14-15	S.O. 2,190-2,200 ft.; S.D.
RAWLINS COUNTY	
J. G. Durham et al's No. 1 Weaver, SE cor. Sec. 3-3-35w	S.D. 2,925 ft.
RENO COUNTY	
Jarvis & Wright's No. 1 Rainbow, NW SE Sec. 33-22-7w	Rig.
RICE COUNTY	
J. Liggett et al's No. 1 Thodel, C NW NW, Sec. 11-21-7w	Spudding.
Gypsy Oil Co.'s No. 1 Steckel, C NE NW Sec. 31-19-10w	Drlg. 3,280 ft.
RUSSELL COUNTY	
J. Brennan's No. 1 Waly, CNL E½ NW Sec. 29-13-11w	Rig.
T. Palmer et al's No. 1 Pasek, C SE Sec. 3-14-11w	Drlg. 3,310 ft.
RUSH COUNTY	
Skelton et al's No. 1 Brock-Hartman, SW SE NE Sec. 4-18-16w	S.D. 50 ft.
SALINE COUNTY	
Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w	S.D. 2,710 ft.
SHERIDAN COUNTY	
Flo et al's No. 1 Shoemaker, SE SW Sec. 27-7-26w	Fishing 4,135 ft.
STEVENS COUNTY	
Argus Prod.'s No. 2 Christopher, C NE Sec. 10-33-39w	S.D. 5,521 ft.
SUMNER COUNTY	
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW Sec. 6-34-2	Drlg. by csg. 2,385 ft.
WASHINGTON COUNTY	
Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3	S.D. 1,720 ft.

. . . let's talk . . GREATER YIELD HIGHER QUALITY LOWER COSTS



For the refinery executive interested in securing greater yield and a better product at lower cost, The Lummus Company has some very interesting data—not merely theory, but actual facts and figures of how Lummus equipment can increase yield and decrease costs.

No obligation attaches to a request for information covering the application of Lummus equipment to specific problems. Let's discuss refinery performance—facts and figures.

THE LUMMUS COMPANY
50 Church Street New York City

To the petroleum refinery industry, The Lummus Company offers the cumulative experience of thirty years in the design and construction of fractionating equipment, plus the experience and research facilities of The Babcock & Wilcox Company and The Superheater Company.

LUMMUS
PETROLEUM REFINING PLANTS

Shelby County Wildcat Gets Showings

Makes Several Heads of Pipe Line Oil. Zwolle Field Registers Three Dry Holes. Two Small Gas Wells in Seven Completions

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Mar. 7.—Only two small gas wells resulted from seven completions in this division during the week. The Zwolle Field of Sabine Parish, the most active area in this district, failed to report a new producer, but registered three dry holes, located in practically proven territory around the new eastern extension.

The most important development among the wildcats was Harry Elliott and others' No. 1 Pickering Lumber Co., G. H. Patterson Survey, in the eastern part of Shelby County, East Texas, near the Louisiana State line. This test encountered a strong show of gas and oil several weeks ago while drilling at 1,495 feet, but the death of J. P. Stock, one of the operators, has delayed final testing. At that time, the wildcat made several heads of pure pipe line oil with a good gas pressure with the drill stem in the hole. The crew killed the well with baroid and 6⅝-inch casing was set at 1,463 feet. After standing for several weeks, a core was cut from 1,495-98 feet, consisting of chalky, sandy shale. The hole has since been deepened 10 feet to 1,508 feet, and is reported to be swabbing a good show of oil. After deepening the well, a small quantity of salt water showed up but not of sufficient quantity to interfere with the well, provided it develops into a commercial producer. The operators, at this writing, are setting 2-inch tubing with the expectancy of getting a flowing well.

From Shallow Horizon

Although this area in Shelby County has been drilled before with varied results, this is the first test to develop such good indications of production from the shallow Nacatoch horizon. The Gulf Production Co.'s No. 1 Addie E. Carraway, G. H. Patterson Survey, one-half mile west of the Elliott test, was drilled in 1928 and a test was made of the Nacatoch formation from 1,550 to 1,621 feet, resulting in a small show of gas and an estimated 5 bbls. per day of oil. This well was deepened and tested around 5,000,000 feet of gas from 3,247-51 feet, and gauged 134 bbls. daily of 38.5 gravity oil at 3,382 feet. The test was finally completed at 3,440 feet and flowed from 48 to 52 bbls. per day until March, 1931, when authorization was obtained to abandon it. During last year, E. L. Chapman's No. 1 Pickering Lumber Co., C. E. Henry Survey, about 6 miles north of the Elliott wildcat, was completed as a good gasser in the Glen Rose of the upper Trinity at 3,864 feet. Although no official completion has as yet been made on the wildcat, the indications are that at least one other test will be started in that vicinity within the next few days.

Zwolle Deep Test

None of the other wildcats in this district have reached the testing stage, although two deep tests in the Zwolle area are making good progress after experiencing fishing jobs. R. L. Gay, trustee, is reaming at 4,167 feet in his No. 1-A Long Bell Lumber Co., Section 10-8-13. The test, which is several miles northwest of the Zwolle chalk rock production, will set 6⅝-inch casing for a test of a good core cut in the Oolitic lime of the Glen Rose age in the upper Trinity horizon. The total depth of the hole is 4,788 feet. The other deep test in this area, Loring Oil Co.'s No. 18 Bowman-Hicks, Section 15-7-12, has successfully sidetracked 1½ joints of drill stem at 4,390 feet, and is coring at 4,520 feet.

Three Dry Holes

The results obtained from a week's active drilling in the Zwolle chalk rock field have been disappointing. Three dry holes were turned in that were confidently expected to be producers, and several other wells failed to hit the productive crevice in the chalk at the pay horizons. Two of the dry holes were in the new southeastern extension of the field. Crescent Drilling Co.'s No. 3 Byrd, Section 12-7-11, was dry and abandoned at 2,525 feet. The test is located between the same company's No. 1 Byrd and Smitherman & Grigsby's No. 1 Gardner, in opposite corners of Section 12, and both of which were completed as good flowing wells. About one-half mile southeast of the nearest production, Service Drilling & Royalties Co.'s No. 1-B Gardner, Section 7-7-10, was dry and abandoned at 2,812 feet.

To show the inconsistency of this chalk rock producing area, J. E. Smitherman's No. 1 Smith, one-fourth mile south of the Service Drilling Co.'s dry hole, has 200 feet of oil in the hole and is arranging to swab at 2,811 feet. In Section 14-7-11, where three good wells have recently been completed, W. F. Lacey's No. 2 McNeely tested dry at 2,558 feet, backed up and whipstocked at 2,400 feet, and tested dry at 2,453 feet. This test is a few hundred yards southwest of the same operator's No. 1 McNeely, a 600-bbl. well, and between it and Lyons and Neely's flowing well near the center of the section. In the western part of the field, near Zwolle townsite, the Southland Drilling Co.'s No. 1 Mansfield Hardwood Lumber Co., Section 36-8-13, seems destined to be a good well. The test made several heads of oil with the drill stem in the hole, and flowed 25 bbls. per hour for three hours through the 6-inch casing before sanding up. The operators are setting 2-inch tubing with packer with the total depth at 2,403 feet.

Two Gas Wells

The two gas wells, the only successful completions during the week, were both in North Louisiana. On the high Trinity Dome 2 miles south and east of the Bellevue shallow field in Bossier Parish, H. I. Morgan's No. 1 Strange, Section 23-19-11, gauged 6,000,000 feet of gas with 720 pounds rock pressure from a total depth of 1,814 feet. In Ouachita Parish, Monroe Field, J. J. Potts, agent, completed his No. 1 Robinson-Reid, Section 11-18-4e, with the initial small flow of 2,000,000 feet and 715 pounds rock pressure from 2,240 feet.

In Cass County, East Texas, William S. King's No. 1 D. W. McDonald, Martha Ingram Survey, was abandoned at 2,265 feet on account of a crooked hole, and the derrick will be skidded over and another test started immediately. Tennant and others' No. 1 J. Henry, C. Z. Walker Survey, in Shelby County, was junked and abandoned at 3,457 feet. The test has been inactive for several months.

Daily Average Runs

There was a net decrease of 135 bbls. in the daily average runs from the fields of North Louisiana and Arkansas during the past week. The former declined 290 bbls., while the latter showed an increase of 155 bbls. The daily average runs from the several pools are:

NORTH LOUISIANA

	Bbls.
Caddo, light	5,475
Caddo, heavy	1,705
Cotton Valley	540
DeSoto and Red River	2,050
Elm Grove	335
Haynesville	4,615
Holly	315
Homer	2,900
Pleasant Hill	320
Sarepta-Carterville	840
Urania	3,100
Zwolle	5,700
Total North Louisiana	27,905
Total previous week	28,195
Decrease	290

ARKANSAS

Champagnolle	1,860
El Dorado	3,070
Lisbon	560
Nevada	1,160
Smackover, light	2,885
Smackover, heavy	23,015
Stephens	670
Urabana	800
Total Arkansas	34,020
Total previous week	33,865
Increase	155
Total both States	61,925
Total previous week	62,060
Decrease	135

Louisiana Wildcats

The Triangle Drilling Co. of Shreveport has spudded in on its No. 1 Nuckolls, a wildcat in Section 7-22-12, North Bossier Parish. The test is located on a 3,000-acre block about 3 miles northeast of the town of Plain Dealing and about 6 miles southwest of the Cartersville oil field. The block was assembled by this company more than a year ago, and a test, No. 1 Bolinger, Section 36-23-13, was drilled to 3,524 feet. The Bolinger test was about 1½ miles north and west of the present wildcat.

In Ouachita Parish, Wilson & Mitchell are drilling at 2,675 feet on their No. 1 Williams in Section 5-16-1e. This is a wildcat test in the western part of the parish, near the Jackson Parish line and more than 20 miles from the Monroe gas field. The Louana Oil & Gas Co.'s No. 1 Hammock, Section 32-19-16, a wildcat in the semiproven gas district of western Caddo Parish, near Blanchard, is drill-

(Continued on Page 61)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Company, farm and location— Remarks:
Stauffer & Eshleman's No. 1 Caruth, Sec. 40-1n-7e ..... Derrick.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C. Sec. 15-22-14 ..... W.O.S.R. 2,890 ft.
Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11 ..... S.D. 1,890 ft. (corrected).
H. I. Morgan's No. 1 Strange, Sec. 23-19-11, 660 ft. N and E, SW cor. ..... Completed 6,000,000 ft. gas at 1,814 ft.
Triangle Drlg. Co.'s No. 1 Nuckolls, Sec. 7-22-12, 1,985 ft. W, 1,980 ft. S, NE cor. ..... Began Feb. 28; set 12½-in. 61 ft.

CADDO PARISH

Calatex O. & G. Co.'s No. 1 W. B. Hudson, Sec. 8-16-16, 2,640 ft. E, 2,865 ft. NW cor., Sec. ..... Drlg. 2,360 ft.
Louana O. & G. Co.'s No. 1 Hammock, Sec. 32-19-6, 660 ft. N and W, SE cor. ..... Drlg. lime 2,465 ft.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4 ..... S.D. 1,100 ft; high wtr.
Hudson et al's No. 1 Burton, Sec. 35-12-2e ..... S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6 ..... T.A. 3,097 ft.

DESOTO PARISH

E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 ..... Drlg. 3,290 ft.
A. R. Smith's No. 1 Horn, Sec. 16-12-16, NE cor. Sec. ... Rigging up.
Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16 ..... S.D. 1,965 ft.
A. A. Tutin's No. 1 Mickle, Sec. 7-13-12 ..... Derrick.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13.... Coring 1,785 ft.

(Continued on Page 60)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location— Remarks:
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15 ..... S.D. 2,275 ft.

MOREHOUSE PARISH

Southern Carbon Co.'s No. 57 fee, Sec. 9-20-4e, 660 ft. N, 1,317 ft. E, SW cor. ..... Set 6-in. 2,098 ft.

OUACHITA PARISH

Carbon Cons.' No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N, 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50 ..... Location.

SABINE PARISH—ZWOLLE

L. F. Bahan's No. 1 Quayhagle, Sec. 11-7-11, 250 ft. N, 330 ft. W, SE cor. Sec. ..... Set 10-in. 100 ft.; drlg. 1,450 ft.
Coates Pet. Co.'s No. 2 McNeely, Sec. 14-7-11, 250 ft. S and W, NE cor. NW NE ..... Derrick.
Crescent Drlg. Co.'s No. 3 Byrd, 330 ft. S and W NE NW, Sec. 12-7-11 ..... Dry and abd. 2,525 ft.
Crescent Drlg. Co.'s No. 2 Byrd, Sec. 12-7-11, 330 ft. S and W, NE cor. NW NE ..... W.O.S.R. 2,505 ft.
Crescent Drlg. Co.'s No. 1 Cook, Sec. 12-7-11, 330 ft. S and W, NE cor. NE NW ..... Location abd.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O.S.R. 2,609 ft.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... S.D. 2,454 ft.
W. F. Lacey's No. 2 McNeely, 550 ft. E, 330 ft. N, SW cor. NE NE, Sec. 14-7-11 ..... Tested dry; W.O. 2,453 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... Set 6-in. 2,357 ft.
Loring Oil Co.'s No. 18 Bowman-Hicks, 1,280 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12 ..... Drlg. 4,475 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11 ..... S.D.; W.O. 2,579 ft.
Pelican Nat. Gas Co.'s No. 11 La. Long Leaf Lbr. Co., Sec. 10-7-11, 330 ft. N and W, SE cor. NE NW ..... W.O.S.R. 2,592 ft.

(Continued on Page 61)

Zapata Wildcat Indicates Another Sand

S.R.C. Pool in Duval Takes Its Best Saturated Core. Setback to East Extension of Pettus Field. Zavala Test Delayed

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Mar. 7.—K. & M. Oil Co.'s (Herb S. Morgan) No. 1 Cuellar, a wildcat in Zapata County, blew in with drill stem in the hole after the plugs were drilled at 1,508 feet and ran wild for a few hours. Effort is being made to get out the drill stem. This test was reported last week as having a sand that blew out when the drill entered it. Casing has since been set and an effort made to bring in the well. The sand is at 1,498-1,508 feet, being a correction from the depth reported last week. The test is about 2 miles east of the Escobas Pool and slightly deeper than the second sand in the Escobas Pool.

The test demonstrated that it is a big gas well. There is an odor of oil about it but otherwise the prospects are it will be a gas well when completed. It is quite an important test in that district as indicating the presence of another sand. Fansler's No. 1 Cuellar, a lone gas well completed two years ago and located a mile east of it, had the pay at 1,669 feet.

Failure of the offset wells around Daniel & Hill's No. 1 Montemayor in the north end of the Escobas Pool to make much in the way of production has dampened that district a little. Daniel & Hill's test came in at 1,484 feet for a 1,500-bbl. well but the south offset to it went, after flowing for a day at the rate of about 1,500 bbls., to salt water and the west offsets are much smaller than Daniel & Hill's test. Daniel & Hill's No. 2 Montemayor, a quarter of a mile north of their No. 1 Montemayor, this week found the sand at 1,484 feet but dry.

A little to the east of the line of production and several miles south of the K. & M. Co.'s No. 1 Cuellar, Brogan & Belcher at 1,680 feet last week, tested a little oil but got salt water also and at last reports were drilling at around 2,000 feet. The test is located in Block 62 of the Comitas grant and was reported last week with a showing of oil the depth about lining up with the sand in the Fansler well in Survey 285 several miles north and also checking with the gas production in two other tests drilled immediately south of the Fansler well.

Cole Field

Cole Petroleum Co. set casing and was expected over the week-end to bring in No. 75 Benavides in Duval County at 3,012 feet. The company has completed several oil wells in the east edge of the Cole Field at between 1,700 and 1,800 feet and No. 75 drilled north of the others passed up that horizon and on drill stem test at 3,012 feet got 275 pounds in eight minutes with the pressure increasing and about 20 feet of high gravity oil. Gravity of the oil in the 1,700-1,800-foot sand is the same as all Mirando crude, around 20 to 22 gravity.

S. R. C. Pool

In northern Duval County, the S. R. C. Pool took its best saturated core in No. 7 Duval Land Co. last week at 1,736 feet, 9 feet higher than the top of the sand in No. 6 Duval Land Co. and has set casing without making a drill stem test. S. R. C. Oil Co. and Magnolia Petroleum Co. are developing the lease on acreage originally blocked by the Vacuum Oil Co. The first test was a producer. The next three, drilled by S. R. C. and Vacuum, were dry holes and one test offsetting the discovery well on the east and drilled by The Texas Company was dry and No. 5 and No. 6 by S. R. C. and Vacuum were producers but not as big as No. 1. Northeast and southwest of the discovery well has been condemned. The two producers and No. 7 with the saturated core are to the northwest.

Two new tests are on the sand in the Government Wells extension pool and a third is being started by the Humble Oil & Refining Co. on the north and some additional wildcatting is getting started.

A test is to be drilled on the Welder-Wood ranch several miles east and north of the Government Wells Pool and Suttle and others are starting a test about 5 miles north of the Government Wells Pool on the Bennet land.

Pettus Field

The east end of the Pettus extension got a setback when the Houston Oil Co.'s No. 4 Portis reported last week feeling for the sand, got salt water and seemed to mark the east limits of the extension. It had the sand at 3,916 feet, about the right depth, but got salt water and is last reported drilling below 4,100 feet. Slick-Sellingson's No. 4 Ray, a north offsett to the Houston Oil Co.'s No. 3 Portis, the farthest east producer in the extension, came in a gas well with 780 pounds on the tubing and 790 pounds on the casing, at 3,912 feet, total depth.

At the west end of the field, Buck Oil Corp.'s No. 3 Ray is a 400-bbl. well and Slick-Sellgson's No. 5 Ray on drill stem test showed 200 feet of oil and has set casing. Davis abandoned his No. 1-B Ray in the center of the extension when it failed to get production at the regular depth and it looks now as though it is two separate pools instead of one, since there are two dry holes in the center with the two ends of the field a half mile apart. The gap may yet be closed up considerably from both ends by the drilling of additional tests.

Jim Hogg County

L. W. Connor is fixing to test a sand topped at 1,805 feet in the No. 1 Holbien, a wildcat being drilled by him in northwestern Jim Hogg County. It showed considerable gas when the drill went into the sand and due to finding some formations thin the well has seemed to be running high. It is reaming for a seat for the drill stem sand tester.

DeWitt County

In DeWitt County the third dry hole has been drilled in the Slick Pool on the DeWitt-Goliad County line. The first two tests drilled by T. B. Slick were producers at about 4,200 feet. The next three have been dry holes. The last is C. & M. Drilling Co.'s No. 1 Tom, which has been abandoned below 4,500 feet and is the first that was over the county line in DeWitt County. One of the dry holes is about a mile northeast of the two producers, the Tom test about 1½ miles southwest and the other dry hole is about a half mile southwest of the two producers. The two producers each make considerable gas along with a very high gravity oil, practically distillate.

Zavala Test Delayed

Failure to get a good cement job, delayed the completion of Carpenter and others' No. 1 Wolfe in Zavala County, a pure wildcat many miles from production that is expected to make a gas well. Casing has been recemented and the test should be ready to drill in again some time this week.

In the Balcones Fault zone east of San Antonio, Humble topped the Edwards at 2,547 feet in the No. 3-C Denman in the Darst Creek extension and has set casing.

Luling Oil & Gas Co. has started No. 1 Brown south of the Kingsbury in Guadalupe County, a pure wildcat, on acreage blocked by Pat Armstrong. It is the only wildcat in the county though a deal is on to deepen and complete a test started north of the west end of the Luling Field. In Caldwell County, only a few tests are reported and they are all "standing" though Waggoner is getting ready to start on his test in the eastern part of the county.

In Bastrop County, Sun-Humble's No. 1 Powers is below 3,800 feet in the center of the county. There are a number of tests strung along through the counties to the northeast but most of them are standing.

The Texas Development Co.'s No. 1 Ray, a mile north of Elgin in the northern part of Bastrop County, abandoned in the top of the Edwards some months ago, has developed quite a little gas, so much that it caught fire but was readily put out.

Webb County

Morris and Norden have closed a deal for 3,000 acres out of the Gates ranch in Webb County northeast of the Carolina-Texas Field and will drill three tests on it. The Leaseholders Pool, which developed but a little production, is on another part of the ranch.

Nueces County

Houston Oil Co.'s No. 1 McGregor, a mile north of production in the Saxet Field, hit a gas sand at 4,100 feet that looked like a big well on drill stem test. It has passed it up and is now below 4,250 feet.

One other new test is starting in that field. Rutherford Drilling Co. is starting No. 1 Hunter, an east offset to Gulf Coast Oil Co.'s No. 2 Sedwick which recently was completed at about 4,500 feet, the third producer in that sand and for 75 bbls. No. 2 Sedwick was reported as an east offset to the company's No. 1 Maggie Harrell, the discovery well in that sand. This is corrected. It is an east offset to a point midway between Gulf Coast Oil Co.'s No. 1 Maggie Harrell on the north and Houston Oil Co.'s No. 1 Maggie Harrell on the south, being 300 feet to the east and the Rutherford test is 300 feet east and 150 feet north of the No. 2 Sedwick.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Company, farm and location—	Remarks:
ATASCOSA COUNTY	
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 300 ft. S of No. 1, Blk. 138, W. C. M. Baker Sur., 3 miles W and 6 mile S from Somerset	T.D. 1,665 ft.; drlg.
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1	T.D. 2,980 ft.; preparing to resume.
BLANCO COUNTY	
Hardy-Sitton's No. 1 McMillan	T.D. 602 ft.; S.D.
Theo. Hick's No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm, in Thomas M. Fowler Sur. No. 27 in extreme south point of county	T.D. 1,650 ft.; S. D.
Liles Adams et al's No. 1 Luders, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T.D. 1,100 ft.; standing.
BASTROP COUNTY	
E. R. Mart's No. 2 Wm. Bahn, 2,000 ft. from E line, 1,300 ft. from S line of farm in James Sandifer Sur.	Spudded in, S.D. for repairs.
Sun Oil Co.-Humble Oil & Ref. Co.'s No. 1 Powers, 400 ft. of N and E lines of Blk. 197, Bastrop town tracts	T.D. 3,825 ft.; drlg.
BEE COUNTY	
Alexander et al's No. 1 McFall, 3 miles S Skidmore	T.D. 2,100 ft.; standing.
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tract in Garrett Roache Sur., S part of county	T.D. 5,310 ft.; S.D.
BELL COUNTY	
Bridwell et al's No. 1 Nichols, 150 ft. to W and N lines of farm, N. Roberts Sur.	T.D. 425 ft.
Bridwell et al's No. 1 G. A. White, 550 ft. to E line, 150 ft. to S line of farm, Nancy Roberts Sur., 4 miles SE from Belton	T.D. 537 ft.; no report.
W. A. Klecka's No. 1 W. W. Thornton, 500 ft. from N line, 1,058 ft. from E line of tract in R. Roberts Sur.	Location.

(Continued on Page 57)

SOUTHWEST TEXAS PROVEN AREAS

Company, farm and location—	Remarks:
PETTUS POOL—BEE COUNTY	
Buck Oil Corp.'s No. 3 Ray, 175 ft. from W line, 150 ft. from N line of lease in John Williamson Sur.	T.D. 3,905 ft.; drlg. plugs.
J. M. Davis et al's No. 1-B Ray, 150 ft. to N and E lines of 10-ac. lease, next south of Weinter's, John W. Williamson Sur.	T.D. 4,100 ft.; abnd.
Houston Oil Co.'s No. 4 Portis, 310 ft. E of No. 3 Portis in A. Smaller Sur.	T.D. 4,123 ft.; drlg.
J. L. Mauldin's No. 2 fee	Rigging up in SW cor. of lease.
Slick-Seeligson, Inc.'s No. 4 Ray, N offset to Houston Oil Co.'s No. 3 Pettus	T.D. 3,912 ft.; comp. gasser, not gauged, 780 lbs. on tubing.
Slick-Seeligson, Inc.'s No. 5 Ray, 300 ft. E of No. 3 Ray in George A. Kerr Sur.	T.D. 3,886 ft.; set csg.
The Texas Company's No. 4 Gremmel	Making location.
The Texas Company's No. 5 Gremmel	Making location.
COOKSEY POOL—BEXAR COUNTY	
Chiquita Oil Co.'s No. 3 Cooksey, 480 ft. from E line, 330 ft. from S line of tract in J. W. Rialls Sur.	Location.
Chiquita Oil Co.'s No. 1 Piniazek, 690 ft. from N line, 160 ft. from E line of tract in Martinez & Arocha Sur.	T.D. 1,669 ft.; going on pump.
Chiquita Oil Co.'s No. 1 Dan Kosub	Moving in.
ECKERT POOL—BEXAR COUNTY	
Alamo Nat. Gas Co.'s No. 4 Gembler in Manachaca Sur. No. 51	Location.
F. H. Eckert & Son's No. 9 Sandemer, 150 ft. to N and W lines	Location.
F. H. Eckert & Son's No. 10 Sandemer, 400 ft. E of No. 9.	Location.
F. H. Eckert & Son's No. 1 Louis Brehm, W offset to No. 3 John J. Brehm	Location.
W. R. Swearingen's No. 8 Halbadier in Perez Sur.	Moving in.

(Continued on Page 57)

Montgomery County Center of Interest

New Horizon Found at Port Barre Dome, St. Landry Parish, Louisiana. Another Sand Opened at Esperson, Liberty County

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Mar. 7.—Extension of production in a new horizon at Port Barre, St. Landry Parish, Louisiana, and the opening of another sand at Esperson, Liberty County, Texas, were among the chief field developments on the Gulf Coast the past week. Additional extension and new sand production also were expected to be brought in over the week-end in other areas as tests were being made in several important scattered wells, among these being a test at Jennings, Acadia Parish, which, if successful, will break all records for deep production on the Gulf Coast by over 1,200 feet.

Interest at the close of the week, however, was centered on the Conroe district of Montgomery County, about which reports of several impending important trades were being circulated freely although these were unverified from the principals affected. One deal reported involved the sale of a portion of the block of Strake Oil Corp., including the wildcat producer, completed by the Strake interests last December. The reported purchaser, one of the majors with headquarters at Houston, admitted that negotiations were under way and probably would be consummated but that all details had not been worked out and could not be made known at this time.

The Strake block totals approximately 8,000 acres although only acreage of the South Texas Development Co. comprising in all between 4,300 and 4,500 acres is reported affected. The block lies in a southwest-northeast trend in the central eastern part of Montgomery County southeast of Conroe. The discovery well, No. 1 South Texas Development Co., Theodore Slade Survey, so far is the only producer but no additional tests have been drilled since completion of the well. The latter, the first production in Montgomery County, one of several counties comprising a virgin oil territory situated just north of the Gulf Coast salt dome counties and between these and the East Texas district, came in for approximately 15,000,000 feet of wet gas making better than 100 bbls. of high gravity oil daily from sand at 4,991 feet. Although there was considerable skepticism concerning the area and well at first, the well since has proved itself a real discovery and not only has it held up consistently but it also has gradually increased its pressure to around 1,800 pounds.

Contrary to customary procedure following the opening of such production, important leasing was slow to get under way and no drilling development has followed due probably to the lack of knowledge of the territory and to the uncertainty of whether there was any chance of production off the 8,000 acres held by the Strake interests. Within the past month or more, however, a number of the majors have assembled large blocks and quietly have been adding to their acreage holdings in a trend extending northeastward from the Strake block across Montgomery County and across the southern part of San Jacinto County. The one test, Heep Oil Co.'s No. 1 Cartwright, John O. Davis Survey, started in the area as a result of the discovery, late in the week was drilling below 3,100 feet. Fuel for this is being piped from the Strake well, about 1½ miles to the southwest. Except for supplying this fuel and running around 100 bbls. of oil daily to a small topping plant recently put in operation, no other market outlet has been provided as yet for the Strake producer.

Port Barre Extension

The extension at Port Barre Dome, St. Landry Parish, was Gulf Refining Co.'s No. 1 Wilson & Cochran, which moved production 1,200 feet eastward around the north flank of the dome from the present production on the northwest flank. The nearest well is The Texas Company's No. 5 Botney Bay. Total depth of the hole is 3,197 feet but the well is producing from sand at 3,158-86 feet, making initially around 800 bbls. daily through a half-inch choke. This production is somewhat higher than in previous wells, which have been completed in sands at 3,400 feet and 3,600 feet.

Completion of this well marks the first development on that dome since last summer when drilling operations were suspended. At present, however, two additional tests are under way. Port Barre is one of the older of the geophysically discovered domes and also is one of the most inland of the coastal domes. Production has been confined to the northwest flank and comparatively little drilling has been done elsewhere, the only other tests being a dry hole by Pure Oil Co. on the southeast and one by Alex Futral on the extreme north.

New Horizon at Esperson

At Esperson, Liberty County, Cranfill-Reynolds Co. opened a new producing horizon in its No. 4 Davis, which was completed flowing 300 bbls. daily in sand at 4,084-4,124 feet. This formerly had been completed as a small pumper in the 2,300-foot sand. All previous commercial production has been in the latter sand and in another at 3,300-3,400 feet. A series of other sands showing oil and gas have been found at Esperson, including several in deeper horizons than in No. 4 Davis, but none of those has made wells so far. The Davis producer is on the west side of the field.

Manvel Test

The Texas Company is expecting a good well in its No. 2 Belcher, Manvel, northern Brazoria County. This test, which drilled out the 9⅝-inch casing plug cemented at 5,550 feet, is coring a few feet deeper at 5,585 feet in the sand before setting screen. Although a little lower than the discovery well, No. 1 Belcher, several hundred feet to the west, completed last September, No. 2 is showing up good. On a drill stem test at 5,572 feet before setting casing, it showed 1,500 pounds gas pressure.

Acadia Parish Test

Of considerable interest is the testing by Yount Lee Oil Co. of its No. 10 Housierre-Latrielle, southeast of Jennings, Acadia Parish, which is in sand showing oil at a total depth of approximately 8,680 feet. A well there would make the deepest production on the Gulf Coast. At latest report efforts were being made to run screen. A string of 5-inch casing was seated at 8,640 feet recently to protect a heaving hole.

It is in the same immediate vicinity that the Gulf Coast has its present deepest production, this having been found in Yount Lee Oil Co.'s Nos. 6, 7 and 8 Housierre-Latrielle, which were completed a couple of years ago in a horizon at 7,400 feet. The deepest of the three wells was No. 7 at 7,447 feet. No. 10 is 52 feet east and 412 feet north of No. 6; 243 feet west and 358 feet north of No. 8, and 290 feet due west of No. 7.

At Lost Lake

Pure Oil Co.'s No. 14 Mayes, 650 feet east of production at Lost Lake, Chambers County, is preparing to set casing to test sand showing oil at a total depth of 2,814 feet. On a drill stem test the well showed 11 fourbles of oil and three joints of mud but very little pressure although no salt water was indicated. This is the producing horizon at Lost Lake and while a flowing well is not expected it probably will make a good pumper. This well created some interest several weeks ago when it found a shallow sand at a total depth of only 1,873 feet. It blew in as a small gasser with a slight show of oil but after being killed to run tubing it tested salt water.

Jasper County

A sand showing oil is reported to have been encountered in Hext Drilling Co.'s No. 1 Flourney, a wildcat being drilled in the B. F. Jones Survey, Jasper County. Bottom of the hole is variously reported from 3,997 to 4,080 feet. It is understood casing has been provided which will be set to test the sand. Except for about 2 bbls. of heavy oil daily from a shallow well in the Rockland district there is no production in Jasper County, located in the extreme part of the State just north of the salt dome area.

High Island

Yount Lee Oil Co. has completed its No. 25 Cade, High Island, Galveston County, flowing 425 bbls. of pipe line oil from sand at 5,372-5,447 feet. A total of 74 feet and 9 inches of 3½-inch screen was set. This well has been deepened from sand at 5,209-57 feet, where it was brought in during February for 240 bbls. daily.

Barbers Hill

At Barbers Hill, McAlbert Oil Co.'s No. 3 Wilburn, a workover in the deep sand off the east edge of the dome, was put on the pump for 173 bbls. daily at 5,216 feet in a hole sidetracked from 5,126 feet. Depth of the original hole where the well was completed over a year ago was 5,219 feet. The only other completions of the week were Rio Bravo Oil Co.'s No. 129-A "B," Saratoga, flowing 73 bbls. net oil from the shallow sand at 510-65 feet, and E. M. Wilson's No. 8 W. & P. Gulf fee, 60 bbls. of fluid, 8 per cent b.s. and water, 1,456 feet.

Markham

United North & South Oil Corp. was preparing at the close of the week to test sand in its No. 1 McDonald, northeast flank of Markham, Matagorda County. Bottom of hole is 3,577 feet, which is somewhat lower than in Ellis Hamill's No. 1 Meyers, discovery well of the sand, completed last July, and Powers Production Co. producer, brought in several months ago as the second well in the sand, both of which are around 3,300 feet. The McDonald well, however, is a little farther out from the dome. However, no water showed in a drill stem test. L. P. Smith and associates' No. 1 Hudson, flank sand test on the south side of the dome, went into heaving shale and has been abandoned at 3,700 feet.

GULF COAST FIELDS AND WILDCATS

Week Ending March 5

BARBERS HILL—CHAMBERS COUNTY

Company, farm and location—	Remarks—
Bashara Oil Co.'s No. 2 Tarbutton, Henry Griffith League, 25 ft. W of Texas Gulf Producing Co.'s No. 2 Tarbutton	Drlg. salt 2,575 ft.; top of salt 1,414 ft.
R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-acre tract	Drlg. lime 1,872 ft.
Gulf Prod. Co.'s No. 7 Wilburn, Henry Griffith League, 177 ft. W of No. 6	T.D. 3,478 ft.; plugged to 1,185 ft.
McAlbert Oil Co.'s No. 5 Wilburn, Henry Griffith League, 375 ft. of No. 4	Drlg. salt 1,948 ft.
McAlbert Oil Co.'s No. 3 Wilburn (W.O.), Henry Griffith League	T.D. 5,222 ft.; sidetracked 5,126-5,216 ft.; set screen and comp. pumping 173 bbls. daily.
Mills Bennett Prod. Co.'s No. 1-B Gulf fee, Wm. Bloodgood Sur., 500 ft. E and 50 ft. N of SW cor. of "B" lease	Cemented cavity 1,129 ft.
The Texas Company's No. 6 Wilburn (D.D.), Henry Griffith League	Cored sand showing oil 4,860 ft.
The Texas Company's No. 7 Wilburn (D.D.), Henry Griffith League	Cleaning hole to work over 4,422 ft.
The Texas Company's No. 8 Wilburn, Henry Griffith League, 25 ft. W of No. 5 and 50 ft. N of S line of tract	Drlg. water sand 4,200 ft.
Texas Gulf Producing Co.'s No. 1 Scott, Fitzgerald, 125 ft. from S line and 71 ft. from E line of Strip No. 1, Henry Griffith League	Lime 3,550 ft.; cmtd. 9⅝-in. csg. on bottom.
Texas Gulf Producing Co.'s No. 9-B Kirby, Henry Griffith League, 50 ft. out of SW cor. of J. M. Fitzgerald 50-acre tract and 110 ft. S of N line of Kirby tract	T.D. in salt 2,379 ft.; plugged to 1,700 ft.
Texas Gulf Producing Co.'s No. 7-A Barber, Henry Griffith League, 712 ft. from W line and 225 ft. from N line of tract	Spudded.

HUMBLE—HARRIS COUNTY

J. E. Burt et al's No. 1 C.O.&G. Texas Co. fee (D.D.). J. B. Stevenson Sur.	Drlg. sandy shale 2,177 ft.
J. E. Burt et al's No. 2 C.O.&G.-The Texas Co. fee, J. B. Stevenson Sur., 450 ft. N of No. 1	Location.
Sun Oil Co.'s No. 27 Bender, W. B. Adams Sur., 250 ft. W of No. 26 in line with No. 25	Drlg. shale and rock 3,968 ft.
E. M. Wilson's No. 8 W. & P. Gulf fee, 95 ft. from W line and 86 ft. from N line of Blk. 15, J. B. Stevenson Sur.	Set 60 ft. of 4¾-in. screen 1,456 ft.; comp. flowing 60 bbls. fluid, 8 per cent b.s. and water through open line.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beaucham Sur., in the T. J. Notgrass Sur.	Sticky shale 6,103 ft.; reamed to 6,093 ft.; to set csg.
The Texas Company's No. 3 Polk, T. J. Notgrass Sur., 500 ft. NE of No. 2 Polk	Gumbo 1,700 ft.; cmtd. 10-in. csg. on bottom.
The Texas Company's No. 3 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2	Drlg. gumbo and boulders 2,573 ft.

HULL—LIBERTY COUNTY

Eclipse Oil Co.'s No. 1 Barrow, Jesse DeVore Sur., 50 ft. from N line and 31 ft. from E and W lines 37-acre tract	Drlg. sticky shale 4,140 ft.

(Continued on Page 58)

Hobbs Pool Well Gauges 10,500 Barrels

New Test in Fremont County, Wyoming. Second Well Planned in Midway Dome. Greasewood Development Plans Delayed

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Mar. 7.—The Continental Oil Co. had a good well in its No. 6-B State, Hobbs Pool, New Mexico, which gauged at the rate of 10,560 bbls. through a half-inch choke. The Midwest Refining Co.'s No. 8 Byers does not look very promising.

Colorado had only routine operations, there being no completions and no new wells started.

A new test is being started in the southeastern corner of Fremont County, in Wyoming. One well spudded in Natrona County. The Mutual Oil Syndicate is rushing plans for a second well on the Midway Dome.

There were no completions or new operations reported in Montana.

NEW MEXICO

Lea County

Dean E. Winchester, who has been engaged for some time in preparing an elaborate report on New Mexico oil development and future possibilities for that State, returned to Denver this week. He said in regard to the water intrusion in Hobbs wells that there has been no particular change in the situation for several months. Six or seven wells on the southwestern edge which have been making some water have shown no material increase and the engineers, he says, have the situation under control.

Continental Oil Co. has a good completion in its No. 6-B State, C SE SW, Section 33-18-38, in the southeastern part of the Hobbs Pool. It is waiting for official test for proration purposes. An estimate placed it at 1,000 bbls. per hour, open flow. On a company test lasting 15 minutes it produced at the rate of 10,560 bbls. a day through a one-half-inch choke. The total depth is 4,155 feet and tubing is at 4,135 feet. It is an offset on the north to the Midwest Refining Co.'s No. 11 State, which was completed two weeks ago and given a potential of 14,671 bbls. per day.

Midwest Refining Co.'s No. 8 Byers, C NW NW, Section 3-19-38, an outside well and a south offset to the same company's No. 29 Turner, does not look promising. It is bottomed at 4,175 feet and is running tubing. It showed some porosity at 4,033 feet. It missed the big gas, the sand at 3,718-40 feet being dry. Midwest's No. 8 Turner, C NW SW, Section 34-18-38, is drilling at 1,532 feet in red beds and shells. It is a north offset to No. 29 Turner.

The California Co.'s No. 1 Meredith, SE cor. NE, Section 19-21-36, Eunice Pool, a producer which recently started drilling deeper, went to 4,000 feet, where it made a little oil with water, and is preparing to plug back to 3,950 feet.

Eddy County

Flynn, Welch & Yates' No. 61 State, SE NE NW, Section 32-18-28, on the southeastern side of the Artesia Pool, looks as if it will make a small well. It is bottomed at 2,034 feet in lime, where it had 700 feet of oil standing in the hole, the oil coming in at 1,989-2,012 feet. It was shot with 90 quarts at 1,989-2,012 feet and is cleaning out.

R. D. Compton's No. 1 Compton, NE NW NE, Section 8-18-27, in the South Artesia area, is drilling at 1,230 feet in white lime.

Grayburg Oil Co.'s No. 3 Burch, C SW NW, Section 19-17-30, Jackson area, is drilling at 670 feet in salt. It topped the salt at 425 feet and set the 10-inch at 373 feet.

DeBaca County

Landowners Oil Co.'s No. 1 McAdoo, SW cor. NE, Section 16-1s-27, Buffalo Creek, is shut down at 4,673 feet in lime. When the new interests took over this operation last summer it was reported the company had arranged for 5,000 feet of 6⅝-inch seamless pipe. A shipment of this size has been made to Fort Sumner and probably is for this well.

Chaves County

Warman Oil Trust's No. 1 Evans, N half, Section 15-14-25, Blackdom district, is reported drilling at 703 feet.

Bernalillo County

Norins Realty Co.'s No. 1 Pajarito grant, NW cor. NE, Section 22-9n-1e, is drilling at 1,243 feet and carrying 12½-inch.

Guadalupe County

New Mexico Producing & Refining Co.'s No. 1 McMullen, SW cor., Section 24-5n-16, Mesa Leon, is drilling at 4,025 feet in granite wash. The 8⅝-inch was cemented at 4,005 feet. The Belleview Oil Syndicate has been authorized to resume control of operations.

San Juan County

Continental Oil Co.'s No. 24, SW NW SW, Section 1-29-19, Rattlesnake Dome, is reported coring below 6,700 feet and just about in the objective horizon in the Pennsylvanian. In No. 17, the discovery well in the deep pay, water was found at approximately 6,740 feet and 29 feet below it went into the oil. The hole had been reduced to such a small size it was impossible to shut off the water and the well was produced for two years with the water coming with the oil. In No. 24, the core is expected to show the exact water horizon so it may be cased off before drilling into the pay. No. 17, C NE, Section 2-29-19, was deepened to 6,985 feet without any change in conditions and it has been cemented back to 6,611 feet to stop caving.

Federal Judge Colin Neblett has held that the New Mexico state land commissioner had a right to reserve the oil and gas content of the State's mineral lands to the State when surface rights were sold, though such reservation was not specifically authorized in the congressional enabling act.

His decision was against Will N. Terry and Ora B. Terry, of Lea County in a suit for ejectment of the Midwest Refining Co. from state purchased lands to which they own surface rights. They also asked damages and the State's royalties from oil and gas produced.

This is a test suit in a series of such cases brought by various surface right landowners in Lea County against a dozen major oil companies which developed the Hobbs Pool, Jal Field and other oil resources which include a large acreage of state mineral rights. Claims totaling more than $1,000,000 were advanced.

COLORADO

Weld County

An announcement of the plans of the Platte Valley Petroleum Co. for the development of its acreage at Greasewood has been delayed and a member of the executive committee says a statement may be made public the first of next week.

Continental Oil Co.'s No. 1 Gadbois, C SE SW, Section 24-6n-61, on the southern edge of the Greasewood Pool, does not appear to have been improved by the shooting of the Muddy sand at 6,670-90 feet and averaged 27 bbls. in a five-day swabbing and bailing test. Total depth is 6,701 feet. The tubing has not been run and the prospects for a commercial well are not encouraging.

Platte Valley Petroleum Co.'s No. 1 Patterson, NE SE NW, Section 24-6n-61, the discovery well, which went off production last week after having produced since October 10, 1930, is cleaning out and lowering 4¾-inch. Total depth is 6,693 feet.

Reiter-Foster Oil Co.'s No. 1 Johnson-Juhl, C SE SE, Section 14-6n-61, on the western edge of the pool, has had trouble in getting the cement to set in plugging off the Dakota and is having a special mixture of cement made up. It is planned to plug back to the Niobrara, shoot off the 7-inch and test a sand at 6,260-70 feet.

Larimer County

Mayer Oil Co.'s No. 1 Reed, SW cor. NW, Section 28-4n-69, Berthoud district, is bottomed at 3,100 feet and underreaming 6⅝-inch. At this depth it has a show of gas and rainbows of oil.

Adams County

Hills Dome Lease Development's No. 1 Hills, SE cor., Section 27-3s-64, Watkins district, is resuming at 3,790 feet after being shut down since December. In the meantime the Siler Drilling Co. took a drilling contract to complete the hole to 5,000 feet, changed over to fuel oil, and put the rig into good condition. The 8⅝-inch is being carried.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, near Aurora, has made 4 feet of new hole since landing 4¾-inch on bottom at 5,920 feet, without any change in conditions. It is drilling with a special 3-inch bit.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, near Denver, is drilling at 4,185 feet in sandy shale.

El Paso County

Utemoor Syndicate's No. 2 Carson, NW NE NE, Section 10-16s-66, Fountain district, is preparing to resume in about a month under an agreement with Colorado Springs parties. It is bottomed at 1,025 feet. Last fall a deal was made with Robert Sweeney and associates to complete the well. This firm went into the hole and cleaned it to bottom and moved in a string of 8¼-inch, but did no drilling. This well is close to No. 1 Carson, which had 500,000 feet of gas in the Nio-Benton at 1,827-37 feet.

Moffat County

Ohio Oil Co.'s No. 1 Bogenschultz, C SE SE, Section 9-6n-91, Craig Dome, which picked up a sand in the basal Mesa Verde at 2,781 feet showing for gas through a large volume of water, cemented 8¼-inch on top of the sand for a water shutoff and is preparing to test. The gas was estimated at all the way from 25,000,000 to 50,000,000 feet, but no gauge was taken.

Rio Blanco County

Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, Piceance Creek, which gauged 13,000,000 feet of gas at 2,936 feet, is standing shut in until weather conditions improve. It is planned to run 8¼-inch and go deeper. The hole is bottomed in a very hard rock formation just below the gas sand. When the tools came out they showed considerable oil. In No. 1-A Fordham, half a mile to the west, this sand had dry gas. Immediately below it was another sand showing wet gas. No. 1 Maddock is a little lower than No. 1-A Fordham and prospects for encountering an oil sand

(Continued on Page 42)

TWIN RIVER STRUCTURE TEST PUMPING TEN BARRELS A DAY

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Mar. 5.—On the Twin River structure, southeast of Lethbridge, Parco Oil Co.'s No. 1, LSD 16, Section 34-1-20w4, is continuing its pumping test of the oil horizon encountered in the top of the Madison lime around 3,890 feet. The oil is coming from a very close sand approximately 30 to 40 feet thick, and the yield is reported steady at 10 bbls. a day, testing around 31.5 gravity. According to reports the oil horizon extends from 3,855 to 3,887 feet, which would include the bottom 2 or 3 feet of the Ellis and the remainder in the top of the Madison. It is expected a shot will result in a fair commercial producer. The test was drilled on acreage of the Nordon Corp., and is the first test in Canada by the Parco interests.

Texas-Imperial Goes Deeper

Northwest of Parco's No. 1, and a few miles west of Lethbridge, Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, has finished a test of the oil horizon encountered just below the Ellis-Madison contact at 4,551 feet. Casing was cemented on top of the lime immediately after the first oil show was encountered. According to J. H. McLeod, production manager of Imperial Oil, Ltd., who has been looking after the drilling, two 6-hour tests by G. R. Elliott, government petroleum engineer, established a complete water shut off. The test started drilling into the lime. The oil show originally encountered in the top of the lime proved to be noncommercial, and the test was carried deeper into the lime.

According to later reports, a heavy water intrusion was encountered in the lime at 4,574 feet. The water rose several thousand feet in the hole, and drilling was temporarily suspended, pending a decision on deepening the well. It is possible a further shut off may be made and the test carried deeper, as it had not reached the depth where production was anticipated.

Texas-Imperial's No. 1 got the lime some 600 feet deeper than Parco Oil Co.'s No. 1, to the southwest, but about 270 feet higher than Hudson's Bay Oil and Gas Co.'s No. 1 Keho, which is farther to the north. The three tests were in a northwest-southeast line and all got oil shows in the same horizon, the top of the Madison. Hudson's Bay's No. 1 Keho is shut down, and will make its definite production test when the weather moderates, possibly not till April 15.

Commonwealth Test Halted

On the Milk River structure, east and somewhat north of Parco's No. 1, Commonwealth Petroleum's No. 1, LSD 8, Section 9-3-15w4, has temporarily suspended drilling after coring in the lower Devonian lime at 5,240 feet. Drilling

(Continued on Page 41)

Good Well in Callender at Dominguez

Third Zone Producer Brought In Flowing 4,234 Bbls. After Premature Blowout Two Weeks Ago. State Output Down

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Mar. 5.—Potential daily production of crude oil in California on March 1, was 8,850 bbls. less than the State's potential on February 1, and it is not at all improbable that a further reduction will be made by Umpire Neal Anderson next month. San Joaquin Valley fields showed very little change in either their potential daily production or actual production during the past month. The Coastal district, comprising fields in Ventura, Santa Barbara and San Luis Obispo Counties, showed a loss of 3,250 bbls. in the new schedule of potentials, while Los Angeles Basin fields were declined 5,000 bbls. per day. No change was made in the potential daily production of Kettleman Hills, but Elwood, Santa Maria, Ventura Avenue, Huntington Beach, Inglewood, Long Beach and Seal Beach were assigned lower potentials as of March 1, 1932. The allowable daily production of the State remained unchanged at 456,700 bbls., as there has been no definite improvement in the economic situation to justify any upward revision in the established allowable. During the month of January crude and refined oil stocks increased 608,105 bbls. Crude oil production averaged 501,037 bbls. per day during that month and, since the output during February was at approximately the same rate, it is quite probable that a further accumulation of stocks occurred during this period.

Good Well at Dominguez

The Shell Oil Co. focused the attention of operators on the Dominguez Field of Los Angeles Basin during the past week and incidentally revealed the prolific tendency of the third Callender zone in that district when No. 101 Reyes was brought in flowing 4,234 bbls. of exceptionally clean 33.1 gravity oil and 1,760,000 feet of natural gas per day. This well, which blew in prematurely a few weeks ago during a water shutoff test flowing 2,500 bbls. per day, is bottomed at 5,340 feet. No. 101 Reyes, which was finished several years ago in the second Callender zone, was drilled primarily as a five-spot well for the injection of natural gas into the producing horizon. Gas injection was discontinued in this well a short time ago and the hole was accordingly deepened to 5,370 feet and recompleted a few days ago. A substantial quantity of the natural gas injected into No. 101 Reyes for repressuring operations in the first and second Callender zones was moved by pipe line from the Long Beach and Santa Fe Springs Fields where it was originally produced.

The substantial production shown by No. 101 Reyes is of particular importance in view of the existing curtailment program as this conservative work prevents operators in that field from securing the maximum benefits of flush production. As new wells are finished from time to time, the Union and Shell are obliged to suspend production activities in the first and second Callender zones in order to absorb any new production added. Officers of the Union Oil Co. precipitated the conservative development program now under way in the Dominguez Field as the original lease is for a 20-year period and specifically provides that all development work must be completed before the expiration of the time limit. The Dominguez Field was discovered by the Union Oil Co. in 1923 and consequently only 13 years remain in which to complete all drilling. This seems like a rather long time and yet it is quite short when one considers the fact that several deeper zones are known to exist below the third Callender zone now undergoing development. Five wells are being drilled in the Dominguez Field at the present time, one by the Associated, one by the Shell and three by the Union. The latter company has 26 wells shut in while the Shell has 16 wells entirely shut down. R. M. (Bob) Harris, who acquired three small wells of the Richfield Oil Co. in the Dominguez Field some time ago, is contemplating deepening one of these projects in an effort to develop deep zone production. These wells are located on the edge of the structure but might possibly develop commercial production if the lower zones are larger in areal extent than the upper horizons. The Republic Petroleum recently surveyed these wells in order to determine the possibility of deepening at least one of the holes in question. It was found, however, that the well nearest the axis of the structure had drifted 400 feet away from the apex of the structure and consequently, in the opinion of Republic Petroleum Co. officials, did not justify the expenditure necessary for this work. The Richfield Oil Co. has an overriding royalty and will consequently participate in any deep zone development undertaken on this small lease.

Ventura Avenue

Operators in the Ventura Avenue Field reached their objective early this week when daily production was reduced to 35,774 bbls. on March 1 and was further curtailed to 33,853 bbls. on March 2. The decision to reduce daily production of the Ventura Avenue Field from 40,000 bbls. per day to 35,000 bbls. was reached at a meeting held during the early part of February. This arbitrary reduction was inaugurated by operating companies in an effort to reduce the production of natural gas of this field and is the outgrowth of a series of meetings conducted by R. D. Bush, state oil and gas supervisor. Under the new curtailment, natural gas production of the Ventura Avenue Field has been reduced from 155,000,000 feet per day to approximately 140,000,000 feet. Engineers of the General Petroleum, Associated, Shell and one or two other companies have been studying the situation at Ventura Avenue for several months.

The reduction effected early this week was accomplished by adjusting the mechanical condition of a number of wells. In some cases the tubing was lowered and in other instances the upper portion of the producing horizon was blanked off. Operators in the Ventura Avenue Field are to be congratulated on their splendid co-operative spirit and, while current production has been arbitrarily reduced an additional 12½ per cent, this temporary reduction will be offset by increased production at a later date when crude oil will command a higher price and be of more importance from a refining standpoint. The Ventura Avenue Field had a potential daily production of 78,910 bbls. per day on March 1, and an allowable daily production of 40,000 bbls., against which operators have arbitrarily reduced production to approximately 35,000 bbls. per day. Only six strings of tools are being operated in the Ventura Avenue Field at the present time and it appears probable that drilling operations will undergo a further curtailment during the next several months.

Goleta

The General Petroleum, upon entering the Tejon formation in its No. 4 Goleta on the Hollister lease in the Goleta gas field, is abandoning the lower part of the hole and has accordingly plugged back from 1,330 feet to approximately 900 feet. During the course of drilling oil sand was cored at 662-09 and 886-09 feet but no test was made as the oil sand appeared to be in direct contact with water It is the present intention to test out these minor showings before abandoning the entire project. The General Petroleum's test on the Hollister property is a joint test with the Shell Oil Co., both companies participating on an equal basis. During the course of drilling the bit in this project encountered a fissure which required approximately 500 bbls. of cement to fill up before circulation could be re-established and drilling continued. The General Petroleum successfully finished No. 3 More in the Goleta gas field a few weeks ago and, while commercial production of crude oil was not developed in that district, the company has three commercial gas producers. No. 3 More, the company's latest completion in that field, showed a maximum daily production of 31,000 feet of dry gas on a recent test. This well, together with Nos. 1 and 2, which were on commercial production during the winter months, have recently been shut in due to the insistence of operators in the Elwood Field that they should be given priority as they must of necessity produce natural gas with their crude oil.

Carpinteria

The Texas Company has abandoned its second structure survey hole in the Carpinteria district of Santa Barbara County and this portable equipment has been moved to the McDouglas property, where preparations are being made to conduct further subsurface work. The Texas Company is conducting this preliminary post hole work in an effort to determine whether a deep conclusive test is justified. The Continental Oil Co. drilled three deep tests in the Carpinteria area a few years ago but was unsuccessful in finding an accumulation of crude oil. The company's No. 1 Franklin blew in as a gasser but failed to show any evidence of oil and was subsequently abandoned. It has not yet been determined where The Texas Company expects to drill but it is believed that the third structure survey hole to be drilled within the next few weeks should throw some light on existing subsurface conditions. The Continental is expected to start additional development in the San Miguelito Field of Ventura County some time during the early part of May and, while additional development is not required on the Grubb property until July, a second well may be drilled on the latter property some time during the early part of June if conditions warrant. No definite decision has been made with regard to drilling operations on the Valenzuela property in this field and it would not be at all surprising if, an extension of drilling was secured by the Continental.

Kettleman Hills

Although drilling operations in the North Dome of Kettleman Hills have been severely curtailed, operators anticipate a slight increase in development work around the early part of the summer. This additional development, which will only involve the starting of a few new wells, will be due to lease requirements and not because of the desire of operators to undertake any additional drilling under present conditions. The Shell will be obliged to start one new well on the Dixon lease early in July and this may necessitate the drilling of an offset on the Associated's Whepley lease and possibly another by the Kettleman North Dome Association. The Superior Oil Co. spudded in No. 4 Huffman during the early part of the past week but, with the exception of this hole, no other immediate drilling is scheduled to be started for another month or so. The Union Oil Co. has temporarily suspended work on No. 2 Amerada King and no decision has been reached as to when work will be resumed. Rig material for this project was placed on ground about two months ago but the project did not get past the foundation stage as the drilling of this hole would have required the starting of two others on adjoining acreage. Rather than precipitate this additional unnecessary work, the Union decided to temporarily suspend operations.

The North American Oil Consolidated, due to the lack of adequate storage facilities, was obliged to shut in No. 1 Elsinore, which came in during the latter part of February flowing 2,400 bbls. of 34.6 gravity oil per day from 8,713 feet. The North American only had one small storage tank available but preparations are being made to erect a second. The company may ultimately decide to deepen No. 1 Elsinore as the production secured was not particularly impressive. This property is located rather well out

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Feb. 20, 1932		Feb. 13, 1932			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal—Domestic—						
Diesel and gas oil	.....	.....	.....	.....	.....	606,269
Gasoline	.....	.....	112,761	16,109	698,745	2,204,691
Foreign Exports—						
Crude oil	165,321	23,617	216,697	30,957	1,327,834	1,194,555
Fuel oil	175,397	25,057	229,512	32,787	1,354,793	2,290,857
Diesel and gas oil	61,351	8,764	176,917	25,274	371,333	516,830
Gasoline	401,141	57,306	91,095	13,014	1,516,310	1,480,813
Kerosene	.....	.....	100,065	14,295	342,467	174,755
Naphtha distillate	.....	.....	.....	.....	41,175	.....
Coastwise—Domestic—						
Crude oil	186,947	26,707	187,585	26,798	2,197,286	2,329,278
Fuel oil	319,040	45,577	269,447	38,492	2,380,994	2,636,444
Diesel and gas oil	44,178	6,311	35,482	5,069	325,509	274,255
Gasoline	250,634	35,805	377,732	53,962	1,775,861	1,709,628
Kerosene	2,269	324	9,104	1,301	27,900	63,281

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal—Domestic—						
Gasoline	68,101	9,729	.....	.....	68,101	63,975
Lubricants	7,849	1,121	.....	.....	7,849	11,000
Foreign Exports—						
Crude oil	116,902	16,700	.....	.....	174,227	6,010
Fuel oil	.....	.....	.....	.....	380,408	63,610
Diesel and gas oil	.....	.....	.....	.....	110,462	113,156
Gasoline	.....	.....	169,468	24,210	585,354	318,272
Kerosene	.....	.....	.....	.....	185,350	190,412
Lubricants	.....	.....	.....	.....	8,225	.....
Coastwise—Domestic—						
Fuel oil	94,228	13,461	8,060	1,151	418,360	516,916
Diesel and gas oil	.....	.....	.....	.....	116,819	5,213
Gasoline	7,498	1,071	.....	.....	568,708	379,770
Kerosene	.....	.....	.....	.....	10,357	16,377

on the north flank of the structure and it is not at all improbable that the water cut, which varies between 2 and 20 per cent, may be due to edgewater. Very little progress was made in correcting the mechanical trouble which has delayed work in No. 1 Blauvelt and the outlook for an early recovery is not any too promising. The North American had drilled No. 1 Blauvelt to 9,500 feet before running into mechanical trouble a few months ago. The original fishing job has become complicated and it will require some exceptionally good work to effect a complete recovery.

Another attempt to extend the proven limits of the Kettleman North Dome is expected to be started in the very near future. The project in question will be a joint test to be drilled by several operators in wildcat territory about 1 mile northwest of the Superior Oil Co.'s No. 1 Huffman. The property in question is fee acreage and is regarded as being rather favorably located with respect to the possibility of developing satisfactory production. The initial test on this lease is located outside of the blue line, which engineers of the Kettleman North Dome Association established as the probable dead line for production. The Petroleum Securities failed to make any substantial progress in the fishing job which has delayed operations in its No. 1 Burbank. a test well in the Middle Dome of Kettleman Hills, and it is problematical whether this hole can ever be successfully placed in satisfactory mechanical condition. This is particularly unfortunate because this well showed evidence of commercial production on a preliminary test conducted a few months ago. The mechanical trouble developed when the company found it necessary to resume work in order to exclude water which was entering the hole. As a result of the present condition of No. 1 Burbank and the probability that a further additional delay will be experienced, it devolves upon the Standard Oil Co. to prove or disprove the existence of commercial production in the Middle Dome of Kettleman Hills. This company will have the benefit of pioneering work done by the Petroleum Securities and should. barring the development of mechanical trouble, have its well finished before the Petroleum Securities can recover the junk from its well and undertake the necessary corrective work to eliminate water.

Fruitvale

The Mohawk Petroleum Co. successfully completed its well No. 8 in the Fruitvale Field of Kern County during the early part of the week and this project, located in Section 21-29-27, came in under a natural flow doing 579 bbls. of 24.3 gravity oil per day from 4,081 feet, the hole having been finished with a 4¾-inch liner carrying 125 feet of perforated and a string of 2½-inch tubing with a packer set at 3,760 feet. Immediately upon completion of this well, the Mohawk shifted the crew to well No. 9 on the same property where preparations are being made to start work some time during the coming week. The Western Gulf, which has not done any development work in the Fruitvale Field for some time, is making preparations to spud in two new wells within the next few weeks. In accordance with lease obligations, the Western Gulf will be obliged to immediately offset the Seahawk Petroleum Co.'s well No. 1-B and No. 1 Farrell of the George F. Getty Co., Inc. The former well was completed in January doing 555 bbls. per day from 3,812 feet. The latter well was completed some time previously but has been shut in. The Western Gulf is skidding two rigs from wells completed some time ago and should consequently be in position to start rigging up within the next week or 10 days.

Round Mountain

The Kern Hills Petroleum Co. successfully recompleted its well No. 1 in the Round Mountain Field of Kern County during the early part of the past week and this project, located in Section 6-8-29, was brought in on the beam pumping 340 bbls. of 17.1 gravity oil cutting 8 per cent. This well, which was drilled to 1,585 feet about a year ago and subsequently plugged back to 1,570 feet, failed to justify production activities at that time as the output was cutting approximately 75 per cent water. Work was resumed a few months ago, however, as company officials believe that with proper reconditioning an improvement might be anticipated in both the quantity and quality of oil produced. This was successfully accomplished a few days ago as this mediocre pumper has been recompleted with the results just mentioned. The Milham Exploration Co. has abandoned No. 1 Wisdom in the Buttonwillow gas field of Kern County as a dry hole and the rig from this project has been skidded to No. 1 Whitaker in Section 8-28-23. The latter is being rigged up and the crew should begin making hole within the next few days. The Milham has shut in No. 10 Kern, a recent completion in Section 5-28-23, flowing 6,000,000 feet per day from the contact zone at 2,690 feet.

Playa Del Rey

The West Coast Petroleum Combinations successfully recompleted No. 5 Venice in the Playa Del Rey Field of Los Angeles Basin after plugging back from 6,165 feet to 4,300 feet. Upon being put on the beam, this well pumped 132 bbls. of 21.6 gravity oil per day from the upper, or Del Rey, zone. With one or two exceptions, development work has ceased in the Playa Del Rey Field due to the present over-drilled condition of the acreage involved and the depleted condition of the productive horizons. The Continental Oil Co. has abandoned two producing wells in the Seal Beach Field of Los Angeles Basin and is quit-claiming 30 acres of the Selover & McGrath lease. The acreage released by the Continental is located in the Alamitos Heights section of the field and is in the saddle between the main field and the Alamitos Heights town lot section. Both of the

(Continued on Page 63)

TWO 1,000-BBL. COMPLETIONS IN MT. PLEASANT, MICHIGAN

By George A. Whitney

MOUNT PLEASANT, Mich., Mar. 5.—Two additional gushers were added in the Mount Pleasant-Midland East Pool that has been keeping the operators on their toes, rushing development work and staking out new locations, which means that great activity will be shown as soon as the spring season comes.

The two late completions are each estimated good for 1,000 bbls. initially from the first pay sand in the Dundee formation and if drilled to the lower pay, may bring the production above the reported output, being in the center of the East Pool. W. L. McClanahan, Inc. brought in No. 3 well, 990 feet from the south and east lines of the A. G. Struble farm, NW SE SW, Section 10, Greendale Township, Midland County. The other well was the Pure Oil Co.'s No. 1, 330 feet from the north and east lines of the Mason-Kidder farm, NE NE NE. Section 17, same township.

At least six new locations in the East Pool have been made within the week as a result of two different tests being started. Most of them are centered around Section 10, Greendale Township, Midland County, in the heart of the East Pool. The bulk of the acreage in that area is under leases to three companies, Pure Oil Co., Talbot Oil Co. and Walter Lee McClanahan, Inc.

Walter L. McClanahan, Inc.'s test on the Corning estate, SE SW SW, Section 2, one of the most important being drilled at the present, had drilled to approximately 1,395 feet. On the results of this test development north of the East Pool in a great part depends. The formation is running fairly favorable at the present time.

Skidded Rig

Talbot Oil Co.'s No. 1 on the State of Michigan land, SW SW SE, Section 11, Greendale Township, Midland County, after drilling to a depth of 1,212 feet, abandoned the hole and skidded the rig to a new location, on account of a bad fishing job.

Drilling it is reported will be resumed on Wells and Miller's test on the H. C. and Martha Thom farm. S half SE, Sec-

(Continued on Page 61)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	8-	2-	15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12-	2-	15	6,238	suspended
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6-	4-	14	2,151	fishing
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24-	3-	15	2,700	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20-	3-	14	6,378	testing
Ranger Pet. Co., No. 1 Watson, Los Angeles Co.	28-	4-	13	5,785	testing
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11-	2-	15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27-	2-	10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30-	2-	9	2,250	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30-	2-	12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31-	2-	12	1,202	redrilling
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34-	1-	11	4,902	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6-	2-	11	5,060	recemented
Wardell & Menichini, No. 1 Montebello, Los Angeles Co.	7-	2-	11	rig	rigged up
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24-	1-	13	3,919	suspended
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19-	1-	12	2,015	suspended
Davidson Oil Co., No. 1 Monterey Park, Los Angeles Co.	32-	1-	12	....	location
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26-	1-	17	1,004	suspended
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23-	1-	16	1,460	cleaning out
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6-	2-	16	1,395	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21-	6-	10	7,175	gr. sd. drilling
Beck, Alfred, No. 1 Corona, Riverside Co.	8-	4-	6	1,110	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25-	7-	10	3,590	sd. sh. drilling
Duncan, N. I., No. 1 Sagebrush, Riverside Co.	8-	4-	6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25-	1-	2	2,392	redrilling
Mason Oil Co., No. 1 Salton Sea, Imperial Co.		1-	17-15	635	sd. sh. drilling
Woods, D. H., No. 1 Salton Sea, Imperial Co.		7-	11-16	674	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-	13-	4	2,519	suspended
Borderland Oil Co., No. 2 Encinitas, San Diego Co.	12-	13-	4	2,575	sd. sh. drilling
South Bay Oil Co., No. 1 Border, San Diego Co.	31-	18-	2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	33-	18-	1	1,700	cemented
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-	11-	8	1,499	sd. sh. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Standard, No. 1 Santa Rosa Island, Santa Barbara Co.	.....			....	building road
Barnsdall, No. 1 Los Alamos, Santa Barbara Co.	31-	8-	33	2,740	sd. sh. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5-	9-	33	8,566	fishing
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2-	7-	35	3,450	suspended
General Pet., No. 4 Goleta, Santa Barbara Co.	10-	4-	29	1,330	plug 900 ft.
General Pet., No. 133 Goleta, Santa Bar ara Co.	21-	4-	28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21-	4-	28	2,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21-	4-	28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21-	4-	28	2,050	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21-	4-	28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20-	4-	28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20-	4-	28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20-	4-	28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22-	4-	28	2,010	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24-	4-	29	2,099	suspended
Johnson & Strickland, No. 1-A Goleta, Santa Barbara Co.	19-	4-	27	4,886	suspended
The Texas Co., No. 2 Carpinteria, Santa Barbara Co.	34-	4-	24	718	abandoned
The Texas Co., No. 3 Carpinteria, Santa Barbara Co.	34-	4-	25	mtl.	building rig
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-	10-	35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14-	5-	27	2,345	suspended
Pacific Finance Co., No. 1 Carpinteria, Santa Barbara Co.	tideland			2,011	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19-	4-	24	2,080	suspended
Bell, H. H., No. 1 South Mountain, Ventura Co.	22-	3-	21	2,270	cleaning out
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15-	4-	21	2,591	suspended
Union, No. 1 Calumet, Ventura Co.	3-	3-	19	....	location
Woodrow Oil Co., No. 1 Miguelito, Ventura Co.	4-	3-	24	....	location
Sycamore Oil Co., No. 1 Conejo, Ventura Co.	24-	1-	20	1,162	hr. sh. drilling
American Oil Co., No. 1 Conejo, Ventura Co.	33-	2-	20	1,590	hd. sd. drilling
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-	27-	22	6,460	sd. sh. drilling
General Pet., No. 1 Buttonwillow, Kern Co.		6-	28-23	2,615	prod. test
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.		7-	29-24	7,000	suspended
Milham Expl. Co., No. 10 Buttonwillow, Kern Co.		5-	28-23	2,690	gas well
Milham Expl. Co., No. 11 Buttonwillow, Kern Co.		8-	28-23	rig	rigging up
Purman, T. H., No. 1 McKittrick, Kern Co.		22-	29-21	3,250	sd. sh. drilling
Welport Oil Co., No. 8 McKittrick, Kern Co.		26-	29-21	1,298	sd. sh. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.		20-	31-24	5,380	suspended
General Pet., No. 1 Belridge, Kern Co.		30-	28-21	8,200	hd. sd. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.		32-	29-21	4,222	suspended
Rio Cal Pet., No. 1 Shale, Kern Co.		2-	27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.		12-	30-28	3,850	suspended
Shell, No. 1 Weed Patch, Kern Co.		29-	30-29	5,910	suspended
Osborn, Colter, No. 1 Weed Patch, Kern Co.		15-	30-29	3,465	suspended
Fullerton Oil Co., No. 2 Semitropic, Kern Co.		25-	27-23	2,597	abandoned
Fullerton Oil Co., No. 4 Semitropic, Kern Co.		9-	28-24	....	material
Standard, No. 1 Devil's Den, Kern Co.		14-	25-16	1,600	suspended
Cumberland Oil Co., No. 2 Devil's Den, Kern Co.		17-	26-18	3,225	fishing
Totem Oil Co., No. 1 Devil's Den, Kern Co.		29-	25-19	rig	rigging up
Signal Oil Co., No. 1 Blackwell Corner, Kern Co.		15-	26-19	106	suspended
Regina Oil Corp., No. 1 Mojave, Kern Co.		26-	10-14	1,065	suspended
Meridian Oil Co., No. 1 Mojave, Kern Co.		11-	9-15	4,000	suspended
Kendall Dev. Co., No. 1 Mojave, Kern Co.		27-	11- 9	1,130	hd. sd. drilling
Harding, J. B., No. 1 Mojave, Kern Co.		5-	10-10	1,030	redrilling
Barnsdall Oil Co., No. 1 Tejon, Kern Co.		15-	11-20	3,950	sd. sh. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.		33-	11-19	6,025	suspended
Descanso Oil Co., No. 1 Tejon, Kern Co.		31-	11-19	1,701	sd. sh. drilling
Associated, No. 1 Jacalitos, Fresno Co.		22-	21-15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.		30-	16-23	2,430	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo, San Luis Obispo Co.		3-	32-22	2,630	suspended
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.		7-	32-22	2,450	suspended
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.		26-	31-12	3,380	suspended
Martin, J. D., No. 1 Edna, San Luis Obispo Co.		5-	31-13	3,070	redrilling
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.		27-	27-11	4,160	suspended
Emerich Oil Co., No. 1 Atascadero, San Luis Obispo Co.		13-	28-12	1,800	sd. sh. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.		1-	29-12	1,650	suspended
Pacific Inland, well No. 1, Monterey Co.		19-	23-15	2,280	suspended
Brown, W. F., No. 1 Parkfield, Monterey Co.		15-	23-14	1,051	cleaning out
Guess, E. B., No. 1 Corcoran, Kings Co.		7-	21-21	6,197	suspended
Niel, W. B., No. 1 Dudley Ridge, Kings Co.		32-	22-20	rig	rigged up
Guess, E. B., No. 1 Dudley Ridge, Kings Co.		12-	22-22	2,210	suspended
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.		7-	23-20	1,224	testing
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.		15-	23-20	1,125	cleaning out
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.		12-	23-19	1,302	cemented
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.		36-	23-17	5,894	suspended
Seymour, L. W., No. 1 Avenal, Kings Co.		10-	23-16	1,148	suspended
Tulare Basin Gas Co., well No. 1, Kings Co.		2-	23-19	1,192	bl. sh. drilling
Tulare Oil Co., No. 1 Corcoran, Tulare Co.		20-	22-22	rig	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.		14-	24-27	2,300	redrilling
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.		24-	17-24	2,092	suspended
Gravity Expl. Co., No. 1 Alpaugh, Tulare Co.		11-	24-22	rig	suspended
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.		20-	24-23	1,920	plug 1,487 ft.
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.		14-	12-17	7,694	suspended
Napa Oil Co., No. 1 Griffith, Napa Co.		7-	8- 3	2,848	cemented
Orinda Pet., well No. 1, Contra Costa Co.		32-	1- 3	2,120	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.		31-	15- 4	1,040	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.		3-	2-10	4,750	suspended
Hilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.		36-	6- 7	1,130	suspended
Orland Oil Synd., No. 1 Orland, Tehama Co.		31-	23- 3	3,040	suspended
Union Oil Co., No. 1 Tracy, San Joaquin Co.		14-	3- 6	5,511	abandoning
Pacific Northern Oil Co., No. 1 Guinda, Yolo County		23-	12- 3	2,005	cleaning out

Unusual Well Found in Old Lima Field

Producer in Tiffin Field, Seneca County, Estimated Better Than 100 Bbls. Progress of Operations in Illinois, Indiana and Kentucky

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Mar. 7.—In Wyandot County, McPherson, Miller & Cook's No. 4 Homer Wonder farm, in Crawford Township, is reported a 2-bbl. pumper in the Trenton lime from 1,359 to 1,448 feet. R. W. Kurtz and others are drilling on the S. O. Smith farm, Section 11, Ridge Township, same county.

In Hardin County, Cessna Township, the Commonwealth Gas Corp. struck a fair flow of gas in No. 3 on the Arthur W. Kritzler farm, Section 12, which also has been estimated good for around 35 bbls. of oil. This well is in the Kenton Field.

Lee Booth is drilling on the A. and J. Breymaier farm, Section 7, Mississinewa Township, Darke County, and if oil is found, will cause some activity in that part of the old Lima Field. The test of Ennis Brothers and others on the William Harpst farm, Lot 4,478, Jefferson Township, Logan County, failed to make a producer at a total depth of 1,920 feet. There was only a light oil showing from 1,771-95 feet.

The Ohio Oil Co. abandoned Nos. 1, 4, 7 and 8 Lincoln A. Foster farm, Section 31, Bloom Township, Wood County, also pulled out Nos. 1 and 2 H. T. Risone Christ farm, also in the same section.

In Portage Township, Hancock County, the Ohio Oil Co. abandoned No. 17 on the J. N. King farm, Section 34, also pulled out No. 20 on the Justice Chase farm, Section 10, Liberty Township, same county.

Young and Geselchen abandoned No. 1 Mary Tester farm, Section 34, Moulton Township Auglaize County.

Seneca County Well

The best oil well found in the old Lima Field for a long period may bring about much new development work. This well was drilled by J. H. Murphy & Sons, and is No. 3 on the Mary Getuldig farm, Section 11, Hopewell Township, Seneca County, in the Tiffin Field, estimated better than 100 bbls., although it it may double that amount in a 24-hour gauge. Some report it around 400 bbls. and it has a strong gas pressure. To save what oil the owners could a dike was made covering what is reported almost an acre to care for the flow. They will rush up tankage. A well of this kind and in territory that has been drilled years ago is enough to encourage further testing, not alone in Seneca County but in every old-time producing county in the old Lima Field. There are four wells now drilling in Hopewell Township, according to reports. They are J. L. Barrett's No. 1 T. N. Einsel farm, Section 1; Clarence Donnells' No. 1 Frank Bosler farm, same section; Tiffin Industrial Gas Co.'s No. 2 Frank Feasel, Section 2, and Sandusky Gas Co.'s No. 1 Lloyd Hoover farm, Section 3. There still remains a large area of untested territory in almost every old oil producing county in the field and also in counties that have not been given very many tests, and indications are that many extensions can be made to the producing area.

CENTRAL OHIO

Few completions were reported from the Central Ohio Field, although there are many new wells under way. Only six new wells were brought in, but none showed any oil; four were dry holes and two gas wells.

In Ashland County, Harmon & George drilled a dry hole in No. 6 on the David Horn farm, Section 4, Lake Township, at from 546 to 552 feet. Commonwealth Gas Corp. is shut down in No. 1 on the Oratta Bennett farm, Section 31, Jackson Township.

In Lorain County, Ramage & Willis drilled a dry hole in No. 2 on the Fred Armbruster farm, Lot 72, Grafton Township, in the Clinton lime formation from 2,774-86 feet.

In Medina County, Chatham Township, the Preston Oil Co. is drilling No. 2-1,512 M. H. Packard farm, Section 27.

Armstrong & Lytle are shut down at 1,476 feet in No. 5 J. W. L. Mothers-paw farm, Lot 12, Franklin Township, Licking County, but expect to go to a deeper pay sand.

In Stark County, the Ohio Fuel Gas Co. has a gas well in No. 1-5,596 L. C. Buchtel farm, Section 15, Jackson Township, in the Clinton lime. Fulton Oil & Gas Co. drilled in a nice gas well in No. 3 Henry C. Rudy farm, Section 6, same township, in the Clinton farm at 4,146-83 feet, and F. A. Brendall and others have a fair gas well in No. 1 C. and M. Yearkey farm, Section 21, same township, in the Clinton from 4,251-87 feet. Same firm made a location for No. 5 J. C. Steiner farm, Section 16, same township. East Ohio Gas Co. is drilling No. 2 Elza Hall, Section 12, and has rigs in for No. 1 J. and C. Albright, Section 8; No. 2 George H. Charles farm, Section 24; No. 5 T. K. Harris, Section 25, and is drilling No. 4 T. K. Harris, same section; also drilling No. 2 Leo Frank, Section 14, same township. Athens Oil & Gas Co. is drilling No. 1 Joe King farm, Section 14, Jackson Township.

In Fairfield County, Berne Township, City Natural Gas Works found a dry hole in No. 3 on the William and Hattie Brucker farm, Section 2, and is drilling No. 3 Thomas W. Moyer farm, Section 13, Pleasants Township, same county.

In Guernsey County, Westland Township, a dry hole was drilled by C. C. Wharton in No. 2 on the Bessie Taylor farm, Section 13, at a depth of 835 feet. Charles Smith has a rig on the William T. and Anna M. Dixon farm, Section 10, Cambridge Township, same county, and Jewell and others are drilling on the Charles H. Scott farm, Section 1, same township.

In Belmont County, Washmuth and Callahan made a location on the George A. Neptune farm, Section 22, Somerset Township.

In Crawford County, Byron Crum is shut down at 745 feet on his own farm, Section 34, Auburn Township.

In Meigs County, Federal Oil & Gas Co. has a machine on the C. C. Snodgrass farm, Section 36, Orange Township. Martin and others are shut down at 1,650 feet on the J. G. Miller farm, Section 3, Chester Township. In Rutland Township, Grover Clayton and others are shut down on the Lois Entsminger and others' farm, Section 33, at 700 feet. Simpson & Rice are rigging up on the Rena E. Karr farm, Section 11, Sutton Township, same county.

INDIANA

While there are many wells being drilled in various parts of Indiana, com-

(Continued on Page 63)

New Washington County, Ohio, Tests

Test Drilled Deeper After Several Flows Showed No Appreciable Increase in Gas and No More Flows. Gassers in West Virginia

By Staff Correspondent

PITTSBURGH, Pa., Mar. 7.—For the month of March, in the three divisions of the lower eastern fields, Southeast Ohio, West Virginia, and Southwest Pennsylvania, production will continue restricted to 75 per cent of the November, 1931, figures, according to a letter mailed by the South Penn Oil Co. to all operators connected to the lines of the Buckeye Pipe Line Co., the Eureka Pipe Line Co. and the South West Pennsylvania Pipe Lines and with whom contracts for the purchase of all oil as run exist. The notice states that the outlet for March will continue the same as for the past month, and on that account it is necessary to request the restriction. In closing, the letter states: "We trust you will appreciate that we are doing everything we can to expand the outlet for Pennsylvania crude and that you will help us in this effort to effect an orderly curtailment of production until such time as the demand returns to normal."

The test of William Harris and others on the Joseph Crago farm at the head of Cady Run, Grandview Township, Washington County, Southeast Ohio, which made several flows from the third Warren sand as soon as the tools entered that formation at a depth of 2,916 feet, was drilled deeper in the sand. Drilling was retarded by the amount of fluid in the hole, and it is reported that the bottom cap of the sand was reached after 20 feet of drilling with no appreciable increase in gas and no more flows. From the amount of leases taken in that vicinity and extending over into Independence Township, it is expected that new tests will be started to that formation very shortly.

With the third month of production curtailment in the three divisions of the eastern fields, completions remain few in number. During the past week five producers with an initial production of 30 bbls., and four gas wells made the total. Three dry holes were also reported.

SOUTHEAST OHIO

Three new producers were reported in Southeast Ohio. In Medina County, the Oko Oil & Gas Co. continued its development of the Henry Essig lease in Section 13, Chatham Township, with the drilling of No. 53 on Lot 3 to the shallow sands at a depth of 395 feet. It produced 10 bbls. the first day after shot. In Section 16 of the same township, E. R. Edson & Son Co. drilled No. 35 of the Morris A. and Eva Franks farm, Lot 20, to 500 feet without striking any production and it was listed as dry.

In Licking County, the Emerald Petroleum Co. and others completed their test on the Howard Barcus farm in Section 10, Fallsbury Township, in the Berea grit at only 658 feet. This test produced 6 bbls. the first 24 hours natural and will probably settle to a 1-bbl. pumper. Most of the wells in this section are deeper sand producers.

In Noble County, Metcalf and Robinson completed their second test on the Fred Springer farm in SE Section 28, Elk Township. It was drilled in the Germantown sand at a depth of 1,050 feet and made 1 bbl. the first day after shot. In Perry County, E. W. English and others drilled a test on the Hugh McTague heirs farm in Section 12, Pike Township, to 3,535 feet and in the Clinton sand. It proved to be a dry hole.

Drilling in Ohio

In Ashland County, A. G. Talbot and others have No. 4 drilling on the David Horn lease of 80 acres in Section 4, Lake Township. It has passed the 300-foot level. In Athens County the Standard Natural Gas Co. is drilling on the J. R. Young farm in Section 12, Waterloo Township, and is reported past 400 feet. In Alexander Township, the Ohio Oil & Gas Co. is down 700 feet in a third well on the R. W. Jones farm in Section 24. In York Township, no further progress has been made at the rig on the A. H. Arbaugh farm in Section 5, which is standing ready for a test by Walter and Sniffin.

In Morgan County, W. S. Harris has No. 3 drilling on the F. A. Gifford farm in Section 13, Marion Township. In Section 41, Windsor Township, E. S. Kepple is drilling on the D. T. Orndorf farm. In Noble County the Harper Brothers have reached 700 feet on the D. Morland farm in Section 31, Enoch Township.

WEST VIRGINIA

In West Virginia four gas wells, one producer, and one dry hole were completed. The producer was the test of Harley Ferrall and others on the William H. Wood farm in Lee district, Calhoun County. It was drilled to 2,114 feet and in the Injun sand and after shot is rated good for 10 bbls. a day. This formation in Calhoun County, as well as close by in Lee district, has chiefly resulted in gassers, and it is probable this is the first oil producer.

Gas Wells

Of the four gas wells completed in West Virginia, the largest was Godfrey L. Cabot's No. 51 on his lease of the Federal Coal Co. tract in Sherman district, Boone County. It is a Berea sand well testing in excess of 500,000 feet a day. In the same district, this operator completed a second test on the Central Trust Co. property in the same formation which is showing for a small gas well.

In Roane County the Deeds Oil & Gas Co. completed a test on the W. C. Keene farm in Geary district in the Salt sand at 1,043 feet. It is showing for over 200,000 feet a day natural. In Pleasants County, Albert Neely completed a test on the A. G. Thorne farm in Union district which resulted in a small gas well. In the same district, Charles Kerr drilled No. 24 on the Allan Holdren farm which proved to be a dry hole.

Drilling in West Virginia

In Ritchie County, W. H. Bickle has started drilling on the U. S. Fluharty farm in Murphy district. In the same district, Godfrey L. Cabot has abandoned a location on the J. N. Eddy farm. H. H. Allen has reached 810 feet on the J. P. Allen farm, same district, and W. R. Hays and others are rigging up for a second test on the Wilson Brothers farm. In Grant district, R. C. Jackson remains

(Continued on Page 63)

WHERE THE COUNTRY IS ROUGH, TRUMAN-SMITH FORGES AHEAD LAYING PIPE.....

Truman-Smith with their large army of skilled workmen and vast reserve strength of modern equipment finishes pipe line after pipe line in leak-proof condition across all kinds of country. No job is too difficult, nor can specifications be too rigid but what this firm can complete the work in less time. —the lowest bid is not always the cheapest.

"The Truman-Smith way is the most economical in the long run"

The TRUMAN-SMITH CONST. Co.
EL DORADO, KANSAS.

Pipe Line Construction News

Tioga to Syracuse Gas Line Finished And Is Being Tested

WELLSBORO, Pa., Mar. 5.—Tioga County gas will be marketed in New York within the near future now that all remains before the new 20-inch line is thrown into operation is detail work and testing from Corning north to Syracuse.

The great artery of transmission was begun on November 1, the actual work starting near Corning, N. Y. Rights of way had been taken in the name of John B. Tonkin of Pittsburgh because at that time the transmission company, the New York State Natural Gas Corp., had not received its charter, although the Standard Oil Co. of New Jersey, of which it is a subsidiary, had made application for such an instrument. In spite of the fact that the line has been constantly referred to in the press as the Lycoming Natural Gas Co.'s line, that company has nothing to do with pipe line construction, being only a producing and marketing company.

The construction work was done by Booth & Flinn of Pittsburgh. Probably the most spectacular engineering was the river crossings over the Tioga, Cowanesque and Chemung Rivers. The water was low when this was undertaken, greatly facilitating the work and reducing the cost. The task that took the greatest patience and endurance was the threading of several bad swamps, the worst of which were encountered at Freeville and in Cortland County.

The cost of construction was approximately $25,000 per mile. Gas will be supplied to both industrial plants and individual consumers, the latter through franchises already held by service companies in cities and villages.

The Syracuse Lighting Co. will build the transmission line from Onondaga Township into the city. This company is a subsidiary of Niagara Hudson.

SOVIET IS OPERATING GASOLINE PIPE LINE

NEW YORK, Mar. 7.—Russia's first gasoline pipe line, linking Armavir with Lisichansk, in the Ukraine, over 500 kilometers in length, has been placed in operation. The line, which has an annual capacity of more than 2,500,000 tons, joins at Armavir with the line from the Grozny fields to the refinery centers of Maikop and Touapse.

The new gasoline pipe line, entirely Russian built, was electrically welded, this being the first electric pipe line welding attempted by the Soviet. Operation of the line opens up large and important domestic consuming outlets for Russian oil, the Ukraine having been previously handicapped in obtaining petroleum supplies by difficulties incidental to railroad transportation.

MEXICAN LINE DYNAMITED

For the second time within a week, the pipe line of a British oil company running 250 miles from Palma Solain, Vera Cruz, to Mexico City, was dynamited March 3. The break, about 12 miles from Mexico City caused an estimated loss of $40,000. Sparks from a passing train set fire to the oil.

BUCKEYE PIPE LINE REPORT

Buckeye Pipe Line Co. reports for 1931 net income of $915,243 after all charges and taxes, equal to $4.57 a share on 200,000 shares of stock. This compares with $1,134,583, or $5.67 a share, earned in 1930.

EAST TEXAS LINE WELL PLANNED AND BUILT ON A FAST SCHEDULE

By W. Mike Murphy
Pipe Line Engineer

In the language of pipe line workers, when pipe lines are started they are wanted "yesterday." The rapid development of the East Texas Field made necessary the quick completion of a number of lines from that area to the Gulf Coast. Construction schedules were unusually fast.

The specifications of the Texas-Empire's 12-inch pipe line from near Longview to Port Arthur called for completion of approximately 200 miles in 30 calendar days, for which a substantial bonus was paid. In order to meet this

Tacking pipe strings.

schedule, it was necessary to concentrate a great deal of equipment and a large number of trained men on the work. To secure this condition the line was divided into five approximately equal sections, and separate bids accepted on each section. It was understood that no contract would be awarded to any general contractor for more than two sections.

The order for pipe in 40 to 60-foot lengths was divided among A. O. Smith, Republic and Youngstown. All material was routed to insure prompt delivery ahead of construction progress.

Sectional Contracts

Contract for Sections 1 and 2, extending from Port Arthur to Sour Lake and from Sour Lake to Kiam, were let to N. A. Saigh Construction Co. of San Antonio, Tex. This company made its field headquarters at Beaumont, and its work was superintended by Dallas Mathews. The electric arc welding of these two sections was done under subcontract by Welding Engineering Co. of Bartlesville, Okla. Pipe was strung by Cox & Carpenter of Bastrop, La., and the right of way was cleared by C. S. Seal & Son of Sicily Island, La.

Sections 3 and 4, extending from Kiam to Lufkin and from Lufkin to New Salem, were let to Apex Construction Co. of Tulsa, Okla., who sublet Section 4 to Meador & Whitaker of Burkburnett, Tex. The arc welding on Section 3 was done by Kane Boiler Works of Galveston, Tex., and on Section 4 by Welding Engineering Corp. The clearing on Section 3 was done by Guy Blount of Lufkin, Tex., and on Section 4 by C. S. Seal & Son. Stringing on both sections was done by Cox & Carpenter. Apex Construction Co. had its field headquarters at Lufkin, Tex., and its superintendent was Larry Favrot.

Part of Line Aircowelded

Section 5, extending from New Salem to Camps Switch near Longview, was let to Gregg Construction Co. of Longview, Tex. This section was Aircowelded by the general contractor with the assistance of qualified welders and field supervision by engineers of Air Reduction Sales Co. The pipe was strung under subcontract by W. Mike Murphy of Dallas, Tex. The line was cleared by W. H. Gore Construction Co. of Carthage, Tex. The ditching was done by Martin Lumber Co. of Port Arthur, Tex. The Gregg Construction Co.'s field headquarters was at Longview and its superintendent was W. D. Van Orsdale.

The methods of construction were those of the latest development to produce a line capable of withstanding the hardships of service in crude oil transportation. Special emphasis was given to speed as well as quality by the requirements of the specifications.

Of unusual interest was the application in Section 5 of Aircowelding. A reduction in the cost of welding with an improved co-ordination in the operations of construction and a greatly increased

Paper wrapping machine at work.

speed was effected by this simpler method of oxyacetylene welding. Less gases and welding rod were used. The walls of the vee of the pipe joint were not broken down and a dense smooth appearing weld approximately one-sixteenth inch wider than the originally prepared vee with a slight reinforcement was produced. The welding was performed under the supervision of the Applied Engineering Department of the Air Reduction Sales Co. Welders were required to pass qualification tests before being employed and their work was regularly checked on the job. Test coupons cut from welds in the line during the progress of the work showed consistency in the welding and greater

(Continued on Page 44)

RECEIVERSHIP SUIT DECISION REVERSED

CHICAGO, Mar. 5.—The United States Circuit Court of Appeals reversed Federal District Judge Charles E. Woodward who had dismissed receivership proceedings against the Missouri-Kansas Pipe Line Co. and Frank P. Parish & Co., its holding concern.

The appellate court remanded the suit filed by John E. Williamson of Chicago, a stockholder, for a further hearing. Judge Woodward ruled the suit involved internal affairs of the company with which the Federal Court could not interfere. The circuit court held the grave charges were alleged in the bill of complaint, there were sufficient acts to justify a valid cause, and the district court should have exercised its discretion in assuming jurisdiction.

The Federal grand jury here has been investigating charges that the company used the mails in a scheme to defraud stockholders.

Mr. Williamson alleged that Frank P. Parish manipulated the company's stock and controlled its affairs to the detriment of stockholders.

ELDORADO TO BUILD PLANT

The city commission of Eldorado, Kans., has enacted an ordinance calling for an election March 25 for the purpose of voting a bond issue of $200,000 for the construction of a gas distribution system. The city is served by the Western Distributing Co., Henry L. Doherty subsidiary.

Eldorado also has let a contract to Dwight J. Wilson of Blackwell, Okla., for a gas supply. Mr. Wilson proposes to pipe gas to Eldorado from the McPherson County Field, where he says he now controls a daily output of 25,000,000 feet. Eldorado will need about 1,500,000 feet daily. The McPherson Field is about 50 miles away.

GARLAND DOME LINE

The Illinois Pipe Line Co. is laying a 4-mile 8-inch pipe line from the Garland Dome, Big Horn County, Wyoming, to a connection with its Elk Basin trunk line to facilitate the handling of production from the Ohio Oil Co. and Utah Southern Oil Co.'s wells. A pump station is being constructed in the field and an 80,000-bbl. storage tank is being transported to the field.

COLOMBIAN OIL REVENUE

The Colombian government made $761,000 in 1931 from the production of oil. This is a decline of $730,000 compared with the revenue from oil in 1930. Causes were the decline in the price of oil in 1931 and the sharp cut in the production of oil ordered by the Tropical Oil Co.'s head offices in April, 1931.

TRANSMISSION LINE CONTRACTS

CASPER, Wyo., Mar. 5.—Midwest Refining Co., subsidiary of Standard Oil Co. of Indiana, has let a contract for construction of a 38½-mile electric transmission line from Salt Creek Field to Casper. The refineries at Casper will be operated with electric power derived from Salt Creek Field gas.

RUSSIAN LINE COMPLETED

The new Russian pipe line for the transportation of light oils from Armavir to Lisichansk, in the Ukraine, has been completed. The line has a capacity of 17,500,000 bbls. and joins another line which comes from the Grozny fields to Maikop and Toyapse.

Injunction Upholds Texas Commission

Judge Bryant Grants Temporary Order Against Constantin and Wrather Pending Hearing on Constitutionality of Order

By L. E. Bredberg

DALLAS, Tex., Mar. 7.—It is just one injunction after another in East Texas; seven were granted during the past week, the last one obtained by Fred Upchurch, assistant attorney general. This injunction was granted by Federal Judge J. C. Bryant in Beaumont today, and restraining Constantin and Wrather from violating proration orders of the Texas Railroad Commission pending a hearing on constitutionality of the conservation law. Granting of this injunction puts the East Texas Field back into almost the same position it was in prior to granting an injunction to these two operators restraining the governor, General Wolters and the adjutant general from interfering with the production of these wells. However, it gives power to the civil authorities instead of the military.

Restraining orders against other operators who have secured injunctions against the governor will also be sought by the attorney general's department to prevent any other operator from flowing his well or wells above the daily allowable set by the Railroad Commission.

Judge Bryant had previously granted injunctions against military rule to the Peoples Petroleum Producers, Inc., the Imperator Oil Corp., A. A. Palmer and others, Arthur F. Fraf and others, the Bill & Dave Oil Corp., Alfred McMillan and others and the North Star Oil Corp. No date for final hearing of the suits or of the State's cross action against Constantin and Wrather and the Peoples Petroleum Producers has been set but Judge Bryant was expected to confer soon with Circuit Judge Joseph C. Hutcheson of Houston to set the hearing date.

Now 4,400 Completions

There are now over 4,400 completed wells in the district. On March 5 the field produced a total of 311,481 bbls. from 4,232 wells which reported production. Forty-seven wells reported no production, and 98 wells failed to report. Average per well was 73.6 bbls. for that 24-hour period. Pipe line runs had fallen off to 296,373 bbls. This has been the first week in many that pipe line runs have fallen below production, and oil has gone to storage in the district.

The Magnolia Petroleum Co. has relinquished over 50 connections to the Shell Pipe Line Co., and the Sun Pipe Line Co. has connected to several wells not desired by other purchasing companies, while several of the other purchasers have been holding back on connecting to more wells. One of the larger independent purchasing companies has been connecting to more wells in Gregg County, in which it has a gathering system, thereby giving an outlet to some of the wells in the district which otherwise might have encountered some difficulty in obtaining connections. However, for the past several weeks companies, as a general rule, have been soliciting more connections, and those operators who have needed connections have readily obtained them when their wells were completed.

Per Well Allowable

Figures compiled by R. D. Parker, oil and gas supervisor for the Railroad Commission, disclosed that the East Texas district has the highest per well allowable of any section of Texas, an average of 66.4 bbls. on February 20, 1932. The next highest section was West Texas with 61.1 bbls. average per well; the Gulf Coast averaged 51.6 bbls. per well; East Central Texas 38 bbls.; Panhandle 26 bbls.; Southwest Texas 14.5 bbls.; North Texas 3.2 bbls.; and West Central Texas 2.8 bbls.

However, in comparing the fields, and treating East Texas as a field, it was fourth highest in the State. The Van Field's average was 166 bbls. per well, and the Yates Pool, Pecos County, had an average of 138.2 bbls. per well. Wells in the Penn Pool, Ector County, had an average of 67.5 bbls. per well. Darst Creek and Winkler County were next, each with a 62 bbl. per well allowable. The Hobbs Pool, New Mexico, leads all of the fields with around 209 bbls. per well allowable.

Number of wells and production of various sections of the State follow: East Texas, 4,200 wells, 279,050 bbls. (February 20); East Central Texas, including the Van Field with 293 wells producing 48,400 bbls., was 55,250 bbls.; Panhandle, 1,900 wells, 49,400 bbls.; North Texas, 15,000 wells, 48,350 bbls.; West Central Texas, 8,300 wells, 23,700 bbls.; West Texas, 2,880 wells, 175,950 bbls.; Southwest Texas, 3,580 wells, 52,000 bbls.; and Gulf Coast, 2,200 wells, 113,700 bbls.

With more producers completed in East Texas Field each day building up the number of producers, the per well average for the field will be curtailed accordingly, but there is no slackening of activities in the district, 110 new locations being reported this week, with 86 wells completed. Six of these locations were wildcats, and one of the completed tests was a dry wildcat.

Lease Deals

Several smaller producing leases changed hands in the district this week, the acreage bringing around $2,500 per acre, which seems to be the established price for acreage in the higher pressure part of the field.

W. H. Gant, Knox and Garvin of Duncan, Okla., made the largest purchase of the week when they took over the west 800 leases held by Adams and Lyles, Kirby Oil Co., and Moody & Seagraves. These leases are in the M. V. Pena Survey, Rusk County. Consideration was reported as $200,000 out of one-half of the first seven-eighths of the oil, and $800,000 out of one-quarter of seven-eighths thereafter. There are to be 10 wells drilled on the acreage by the purchasers.

Pumping and Dead Wells

A check up of the pumping wells, dead wells and wells which require agitating to make them flow shows the Joiner Field, Rusk County, having 76 on the pump, 22 which flow when agitated by pumping, three which flow when agitated by swabbing, and four waiting on pumping equipment. These total 105 wells. There are approximately another 100 throughout the district, which are on the pump, are dead, or flow when agitated, an absolutely correct check being almost impossible in the field, some holding the opinion there are many more in these conditions than reported to the military authorities or Railroad Commission.

Rains County

Greer and others are rigging up in the eastern part of Rains County, on the Roy Harper farm in the David Rose Survey, one of the most interesting tests in East Texas due to the geology of the block, and the play engendered by the geology which was worked by Jim McLaughlin. Wheelock and Collins, Greer and the Woodley Petroleum Co. comprise the owners of the test and block around the test, which is to go to 4,000 feet.

Upshur County

Upshur County continues as the scene of wildcat and semiwildcat tests. Trinity Drilling Co. is making plans to drill 600 feet west of the old Brennan-Woods dry hole. Mr. Woods has donated 1,000 acres toward a test on his land.

Pat Hudson and others have staked a location on the D. T. Smith farm, 3 miles east and 1½ miles north of Cranfill & Reynolds' No. 1 Rash, extension producer in southern Upshur County. This location is on a 272-acre lease in the John Denson Survey.

Mr. Webster has staked a location on the R. H. McClelland farm in the M. P. Del Torres Survey, 7 miles north of Gladewater in Upshur County.

EAST AND EAST CENTRAL TEXAS WILDCATS

Week Ending March 7

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S½ of 139-ac. tract, M. Main Sur.	T.D. 1,538 ft.

ANGELINA COUNTY

Helburt et al's No. 1 Long Bell Lumber Co., 160 ft. from S line and 200 ft. from E line of Sec. 9, H.&T.B. Sur.	Location.

BOWIE COUNTY

Burnham-Robertson and Greer's No. 1 F. O. Weiss, 350 ft. from N line and 200 ft. from W line of B. H. Williams 50-ac. tract, Jessie Dean Sur.	Location.
Logan and Elliott's No. 1 J. W. Smith, 9,600 ft. S and 2,500 ft. W of NE cor. of survey, Chas. Lewis Sur.	S.D. 4,503 ft.
W. S. Langford's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	S.D. 1,880 ft.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	S.W. on D.S. test; S.D. 3,012 ft.

CAMP COUNTY

Monitor Oil Co.'s No. 1 G. L. Merrill, 3,400 ft. from N line and 6,900 ft. from W line of survey, E. Mathews Sur.	S.D. 4,109 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur.	S.D. 1,000 ft.
V. Clopton & Hawkins' No. 1 A. P. Pace, 288 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, W. Dikes Sur.	Derrick.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Derrick.
Harper and Perkinson's No. 1 J. T. Lowery, 650 ft. from N line, 150 ft. from W line of Blk. No. 5 on a 139.6-ac. tract, 4 miles W of Troupe, C. B. Jennings Sur.	Waiting on cmt. to set 130 ft.
Merry Bros. and Perini's No. 1 Annie Kelley, 330 ft. from N line and 443 ft. from E line of 393-ac. tract and 90-ac. lease, M. De Los Santos Coy Sur.	Drlg. 1,110 ft.
Wilson & Stubbs' No. 1 L. Robart, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur.	S.D. 2,035 ft.

(Continued on Page 48)

Eslick and others' No. 1 Whitehurst in the Williams and McKinney Survey, southeastern Upshur County, is drilling below 3,100 feet, going out of the Pecan Gap chalk at 2,980 feet, with top of the chalk around 2,400 feet. This is the most interesting test in the county at present due to its location in regard to production in the pool to the south, and the Cranfill & Reynolds producer to the northwest.

Van Pool

The Trinity test drilled in the north end of the Van Pool, Van Zandt County, by the Pure Oil Co., has been abandoned at a total depth of 7,501 feet in the lower Trinity series, without picking up a showing of oil and gas in this formation. This was the first Trinity test for the field.

Other interesting tests in Upshur County are J. K. Wadley's No. 1 J. B. Oliver in the Sanders Survey, northeast of Jamestown. Material is now moving in on the location. Big Indian and others are moving in derrick north of the Cranfill & Reynolds producer, in the J. Denson Survey. McFarland's No. 1 Starr in the C. H. Cooper Survey, has been spudded and shut down to clear titles.

Falls County

A three-car loading rack is now being erected on the S. P. Railway at Gurley switch, approximately 1 mile from the northern Falls County discovery well of C. C. Curtis and associates on the Lee T. Davis farm, and a small line connects the well with the rack. The well has filled two 1,000-bbl. tanks and is now producing into earthen tanks. It flows through 2-inch tubing until the pressure goes off, then is shut in to allow pressure to build up again sufficiently to produce it. It flows around 240 bbls. per day by this process.

Ellis County

Worthen Petroleum Co. set 5⅛-inch pipe at 2,269 feet in its test on the Mose Serf tract in the Mullican Farms Survey, Ellis County.

COMPLETIONS IN EAST TEXAS

Week ending March 5

Gregg County

R. A. Ambrose's No. 3 D. L. Magrill, top sand 3,597 feet, initial production 60 bbls. per hour through 1-inch tubing choke, total depth 3,652 feet. Amerada Petroleum Corp.'s No. 4 Killingsworth, top sand 3,538 feet, initial production 176 bbls. in 30 minutes through 1½-inch tubing choke, total depth 3,573 feet; No. 3 J. M. Tuttle, top sand 3,519 feet, initial production 36 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,549 feet. Arkansas Fuel Oil Co.'s No. 2 Calvin, top sand 3,570 feet, initial production 75 bbls. in 30 minutes through open tubing, total depth 3,593 feet. No. 4 Castleberry, top sand 3,607 feet, initial production 84 bbls. in 30 minutes through open tubing, total depth 3,621 feet; No. 3-A M. Smith, top sand 3,519 feet, initial production 54 bbls. in 15 minutes through open tubing, total depth 3,545 feet; No. 2 T. Snoddy, top sand 3,560 feet, initial production 84 bbls. in 30 minutes through open tubing, total depth 3,580 feet; No. 4 H. Stevens, top sand 3,572 feet, initial production 78 bbls. in 30 minutes through open tubing, total depth 3,594 feet. Atlantic & Pacific Oil Co.'s No. 1 Ed Harvey, top sand 3,514 feet, initial production 16 bbls. in 15 minutes through tapered tubing, total depth 3,575 feet.

Barnsdall and Sun Oil companies' No. 6 Bingham, top sand 3,518 feet, initial production 144 bbls. per hour through three-fourths inch tubing choke, total depth 3,565 feet. Columbia Oil & Gas Co.'s No. 3 McGrede, top sand 3,570 feet, initial production 60 bbls. in 30 minutes through open tubing, total depth 3,675 feet. Cox and Hamon's No. 6 L. A. Rod-

(Continued on Page 44)

There's no "Hot Spot" too "HOT" for BYERS Wrought Iron

. . and records prove it!

YOU'VE seen plenty of "hot spots." Miles of mud, muck, salt water drainage, alkali soil, cinder fill, gypsum areas, and countless river crossings.

You know what these "hot spot" conditions do to pipe that is made of metal less durable than wrought iron.

Maybe you know, too, that wrought iron pipe has no economical equal when it comes to combating revenue-killing replacements. If you don't, we'd like to call your attention to the service histories of a few old wrought iron pipe lines. For example—one that ran some 378 miles across the state of Pennsylvania—from Bradford and Titusville through the Wilkes-Barre region to Marcus Hook. This line, originally the property of the U. S. Pipe Line Company, was laid in the period of 1892-1901. Thirty-one years later, when it was dug up due to declining production, it was examined and found unimpaired! It hadn't had a leak in that whole period of time!

Think of the "hot spots" this line passed through—clay, black muck, limestone, red-shale and so on! In the entire distance, no "hot spot" was too hot for wrought iron!

Byers Pipe, standard of quality since 1864, is the finest wrought iron pipe ever produced in this organization's 68 years of industry leadership. Up-to-the minute manufacturing methods and strict control of chemical and physical qualities have put it in a class of its own.

Let a Byers oil engineer show you a few case histories of wrought iron pipe line service records. Then ask yourself if you can think of a single "hot spot" too hot for wrought iron pipe—as Byers makes it today. A. M. Byers Company, Pittsburgh, Pa. Established, 1864.

BYERS GENUINE WROUGHT-IRON PRODUCTS

PIPE · CASING · COUPLINGS · NIPPLES · WELDING ELBOWS · SPECIAL BENDING PIPE
BAR IRON · TUBING · PLATES · SHEETS · BILLETS

Crockett County Getting Lease Play

Started by Report That Stanolind Will Drill Deep Test. Nine Locations in Ranger District and 31 Staked in Wichita Falls Area

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Mar. 7.—Crockett County continues to be the most interesting area in the Permian Basin with a lease play which has been participated in by several of the major companies. Blocks and checkerboard acreage have been acquired by the companies which have again become interested in the area because of its deep producing possibilities, the play being put into motion when it was reported that the Stanolind Oil & Gas Co. would drill a deep test in or near Block UV, G.C.&S.F. Survey.

The Texas Company has taken one block of 11,000 acres near the town of Ozona, and 2,000 or 3,000 acres for protection in other parts of the county, while the Humble Oil & Refining Co., Superior Oil Co. of California, Continental Oil Co. and others have been taking considerable acreage in or around Block U.V. and south of Ozona in Q.R.

Location for the Stanolind test has not yet been announced. If and when it is drilled it will be a deep test to seek the deep pay found in the Big Lake Field, Reagan County, about 15 miles to the north.

A little buying is taking place in other parts of the West Texas district, but with none of the intensity of the Crockett County play, and wildcatting remains almost at a standstill in the district, although, with more potential major production becoming a necessity as the East Texas Field is drilled up and pressure declines, West Texas will continue to gain a little interest, and more wildcatting is expected in the Permian Basin as the months pass. There are now only three fields in the district that can make their daily allowables: the Yates Pool, Pecos County; Big Lake Field, Reagan County, and the Howard-Glasscock County Field. The deep wells in the Big Lake Field maintain production in that field.

Ector County

Weekly Oil Corp., McCurdy and Casteel's No. 1 Cowden in Section 33, Block 43, Township 2s, T.&P. Survey, Ector County, is now down to 4,300 feet in lime without any change. Sulphur water is expected between 4,325 and 4,350 feet, and another few days' drilling should complete the story on this wildcat which has had several good gas showings, small oil showings, and looked for a time as a probable producer opening up a new area for the county, or extending the Stanolind Oil & Gas Co.'s Cowden producing area.

Big Lake

The largest deep producer in the Big Lake Field, Reagan County, Group No. 1 Oil Corp. and Continental Oil Co.'s No. 2-B University, has been tubed, this work requiring nearly the entire week to accomplish. For the seven days ending March 5 the field produced a total of 153,740 bbls., No. 2-B shut in all but 19 hours during that time, which cut down total production for the period. In the first 19 hours after it was tubed it flowed 2,494 bbls.

Winkler Wildcat

Sid Richardson's No. 1 S. M. Halley in Section 25, Block B-12, southern Winkler County wildcat, encountered another increase in oil this week while drilling from 2,870-76 feet. It is now shut down at 2,928 feet in lime making approximately 500,000 feet of gas, with about 1,000 feet of oil in the hole. This test lies between the O'Brien production to the south in Ward County and the Hendricks Field several miles to the north, but is not destined to connect those fields as dry holes have been drilled on intervening acreage, precluding that possibility. However, it apparently will be the opener of another area in Winkler County.

West Texas storage for January shows 24,744,421 bbls., with 26,754,492 bbls. room. Stocks decreased 933,024 bbls. during the month.

Howard-Glasscock Hearing

The Texas Railroad Commission has reset for hearing at Fort Worth, March 21, rehearing of the Howard-Glasscock Field oil and gas conservation and proration rules. It also has set for hearing at Brownwood, March 11, hearing on complaints of unequal withdrawals in the Burkett Pool of Coleman County.

RANGER AND WICHITA FALLS

There were nine locations staked in the Ranger district during the week, one in Eastland, one in Coleman, one in Callahan, one in Palo Pinto, two in Brown and four in Shackelford County. There were 31 locations staked in the Wichita Falls district, Young County leading with 15, with 9 staked in Wichita County, 1 in Baylor, 4 in Archer, 1 in Cooke and 1 in Parker County.

W. B. Hamilton is to drill four tests to the Canyon series on his 5,200-acre block in the J. J. Young Survey, Abstract No. 761, in southern Archer County. The fourth test is to be drilled near the center of the block, which is located on a magnetometer "high."

The Buttram Petroleum Corp. has taken over Leidecker and others' No. 1 Holman in the Buttram Pool, Jack County, which was completed in 1926 from an oil sand logged at 2,014-23 feet, and the company is now rigging up cable tools to drill to 2,700 feet. The well has been making only 5 bbls. per day, and an increase in production is anticipated upon deeper drilling.

Ruewalt's No. 1 Berry in southwest Cooke County, 2 miles northwest of Gulf Production Co.'s No. 1 Donal which had the first good showing of oil, producing a small amount, in this area, cored sandy shale and had a showing of oil from 2,693-94 feet, but is now shut down at 2,761 feet. This test was interesting during the past week when it cored the formation containing the showing, but now appears like the other tests in this area which encountered good showings, then failed to make commercial producers.

Waggoner Refining Co.'s No. 14-E Waggoner in the heart of the Rock Crossing Pool, Wilbarger County, has been completed in the Landreth lime for 40 bbls. of oil and 8 bbls. of water pumping, the first 24 hours, and 24 bbls. oil and 8 bbls. water the second 24 hours. Pay was logged from 2,539-43 feet from this deeper lime pay. The main pay in this pool is around 2,300 feet. The well is in Section 30, Block 4, 1 mile from the nearest Landreth lime producers, and therefore extends the deeper pay horizon.

Daily average crude oil shipments from West Texas for the week ending February 25 follow:

Through Main Trunk Lines

Company, size and location—	Amt.
Atlantic P. L. Co., 10-in., Houston	20,044
Gulf P. L. Co., 10-in., Ranger	10,323
Humble P. L. Co., 2-8-in., San Angelo	37,858
Humble P. L. Co., 12-in., Station "A"	50,928
Illinois P. L. Co., 2-8-in., Del Rio	27,132
Magnolia P. L. Co., 8-in., DeLeon	None
Shell P. L. Corp., 10-in., Houston	19,962
Shell P. L. Corp., 10-in., Cushing, Okla	37,432
Texas P. L. Co., 12-in., Houston	12,515
Total	216,195

Shipments to Refineries

Col-Tex Ref. Co., Colorado	5,000
Concho Ref. Co., San Angelo	22
Coaden Ref. Co., Big Spring	6,127
Continental Ref. Co., Sweetwater	2,939
Humble Oil & Ref. Co., McCamey	11,000
Marathon Ref. Co., Del Rio	1,677
Paso-Tex Ref. Co., El Paso	4,000
Rio Grande, El Paso	1,127
Texas Co., El Paso	1,000
Wickett Ref. Co., Wickett	1,216
Total	34,191
Tank car shipments	None
Total daily average distribution	250,386
Daily average production West Texas and Lea County, New Mexico	212,597
Daily average from storage	37,789

PANHANDLE DISTRICT

A hearing on new proration orders for the Panhandle oil and gas fields, especially in reference to the Shamrock and Vanderweide Pools in Moore County, has been called by the Railroad Commission for March 14. The Shamrock Oil & Gas Co. is seeking to have the fields declared separate and distinct pools from other fields in the district, and is desirous of having an allowable of 10,000 bbls. per day set for the two fields.

The fields have two outlets, one pipe line connecting to the Apache Refining Co.'s refinery at Sunray, and the second.

(Continued on Page 78)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending March 7

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Fuhrman Pet. Co.'s No. 1 Boner, 1,320 ft. from N and 440 ft. from W, Sec. 34, Blk. A-43, P.S.L.	T.D. 1,172 ft.; underreaming 10-in. csg. at 1,135 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
R. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 3, G.C.&S.F. Sur.	S.D. 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Slaughter, C Labour No. 80 of League 139, Carson County School Lands	T.D. 5,052 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur.	S.D. 1,055 ft.; running 10-in. csg.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D.

CULBERSON COUNTY

Harris-Hann's No. 1 Seay, 1,980 ft. from N and E of Sec. 16, Blk. 54, P.S.L.	Location.
Kornrumpf et al's No. 1 Garen, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	S.D. 1,280 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW, Sec. 46, Blk. M, E.L.&R.R. Sur.	To resume drilling.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W, Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur.	Drlg. 4,250 ft.
H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G. M. M.Dr.&A. Sur.	S.D. 3,280 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247	S.D. 2,152 ft.

FISHER COUNTY

Condor Petroleum Co.'s No. 1 Steele, 660 ft. from S and 330 ft. from W of W half of SE Sec. 210, B.B.B.&C. Ry. Sur.	Location.

(Continued on Page 47)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending March 7

BRISCOE COUNTY

Company, well, farm name, section and block—	Remarks:
Humble O. & R. Co.'s No. 1 C. Adair est., 2,500 ft. from N line and 2,100 ft. from E line of Sec. 7, Blk. G-6	Drlg. 725 ft.

CARSON COUNTY

Continental Oil Co.'s No. 4 Block, 330 ft. from N, 990 ft. from E, Sec. 111, Blk. 4, I.&G.N. Sur.	Drlg. 2,815 ft.
H. A. M. Oil Co.'s No. 2 Cooper, 330 ft. from S and E Sec. 5, Blk. 9, I.&G.N. Sur.	Location.
Skelly Oil Co.'s No. 27 Schaffer, 1,265 ft. from S and 440 ft. from W, Sec. 88, Blk. 4, I.&G.N. Sur.	Drlg. 615 ft.
Texhoma Nat. Gas Co.'s No. 1-S Burnett, center SE, Sec. 94, Blk. 5, I.&G.N. Sur.	Rigging up standard tools.
Texhoma Nat. Gas Co.'s No. 1-G Gore, 1,320 ft. from S and 1,327 ft. from W, Sec. 42, Blk. 4, I.&G.N. Sur.	Drlg. 2,610 ft.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	S.D. 2,508 ft.
Downey et al's No. 1 Beasley, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur.	Rigging up.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e	S.D. 275 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S and 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur.	S.D. 1,750 ft.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	Drlg. 3,425 ft.
Danciger O. & R. Co.'s No. 3 Byrum, 330 ft. from N line, 330 ft. from E line, Sec. 188, Blk. 3, T.&N.O. Sur.	Drlg. 2,340 ft.
R. B. Etter et al's No. 1 Chapman, 275 ft. from N line and 110 ft. from W line of S½ SW, Sec. of Blk. 26, H.&G.N. Sur.	Rigging up standard tools.
Foster's No. 1 Webb, 330 ft. from S and W, Sec. 43, Blk. 25, H.&G.N. Sur.	Spudded.
Graham et al's No. 1 Barrett, 990 ft. from N and 330 ft. from E, Sec. 112, Blk. 3, I.&G.N. Sur.	Location.
Gulf Oil Corp.'s No. 1 Catlin, 2,310 ft. from N line, 330 ft. from E line, Sec. 27, Blk. 3, I.&G.N. Sur.	T.D. 2,852 ft.; standardizing.

(Continued on Page 47)

CANADIAN FIELDS

(Continued from Page 32)

was recently resumed at 5,090 feet after changing to rotary. The cores are reported to have shown 64 feet of lime with traces of oil, after which the drill passed into a shale formation, and work was suspended for a test which has failed to indicate commercial production. The Sheldon-Burden rotary outfit is being left on location, pending a decision as to further development.

Montana Test

On the Montana side, the wildcat test being drilled on the Milk River structure in Glacier County, Blackfeet Indian Reservation, NE NE, Section 28-36-12w, is drilling in a harder formation around 2,950 feet. The test, it is reported, will be completed to 4,200 feet with rotary. They are considering a second test, which will likely be drilled even if the first test fails to get commercial production.

Alberta Production

Official figures of Alberta oil production for January, released by R. G. Reid, minister of lands and mines, show a total output from all fields of 87,057 bbls., as follows: Turner Valley, crude naphtha, 79,891 bbls.; Turner Valley, light crude, 3,180 bbls.; Red Coulee, light crude, 3,722 bbls.; Wainwright, heavy crude, 264 bbls. No production is reported from Ribstone.

The Turner Valley total compares with pipe line runs for January of 68,793 bbls. At the end of January there were in storage 44,912 bbls. of crude naphtha and 1,908 bbls. of light crude oil. The gas-oil ratio increased from 134,000 feet per barrel in December to 146,000 feet per barrel in January.

The January total of 87,057 bbls. for the entire province compared with 96,112 bbls. in December. There were declines in all Alberta fields.

South Turner Valley

In the Mercury tract, South Turner Valley, Hylo Oils' No. 1, LSD 12, Section 4-19-2w5, has definitely got the Madison lime at 5,501 feet. The test has been drilled a few feet into the lime, where casing will be cemented before drilling into production. The well logs closely with other tests in the same area. Hylo's No. 1 offsets Mercury Oils' No. 1, one of the largest producers in the field.

Miracle Oils' No. 3, LSD 11, same section, is testing at 6,150 feet after drilling approximately 670 feet in the lime. Several previous tests have been made at various horizons in the upper lime, but they failed to develop satisfactory production.

Central Turner Valley

In the Central Turner Valley, Dome Oils' No. 2, LSD 16, Section 36-19-3w5, is still trying to clear the hole after a shot some time ago in the lime at 5,390 feet. The hole at this depth was about 228 feet in the lime, and early tests indicated a wet gas flow of 3,000,000 feet with crude naphtha recovery between 7 and 11 bbls. a day.

Discuss Merger Scheme

Independent operators in the Turner Valley Field have appointed a committee headed by Hebert Greenfield to discuss with representatives of the Calgary & Edmonton Corp. their proposal for unit operation of the Turner Valley Field. A number of conferences have been held by independent operators, but no definite stand has been taken. The Calgary & Edmonton Corp.'s proposal contemplates the formation of one large company to operate the entire field, and take over the Royalite Oil Co. scrubbing plants as well as that company's exclusive right to sell residual gas to the Canadian Western Natural Gas Co. Under the proposal all the present companies will share on a fair prorata basis in the proceeds of naphtha and gas sales.

While as pointed out by Frank P. Fisher, technical adviser of the Alberta government, the new proposal involves somewhat similar principles to the advisory committee's unitization scheme, it differs in that it is restricted to a smaller area and is administered by the operators themselves through a large holding company, with a directorate representing Imperial Oil, independent and natural gas interests.

Manitoba Gas Test

In the Manitou district, southwestern Manitoba, Commonwealth Petroleums' No. 2, LSD 2, Section 26-2-9wPM, has finished underreaming and is making new hole below 1,340 feet. No new gas showings have been reported in the deeper drilling.

British Columbia Prospects

With spring approaching, a revival of drilling activity is expected in the British Columbia areas. In the southeastern section, work is to be resumed on Crow's Nest-Glacier Oil Co.'s No. 1 in the Sage Creek district. The operators took advantage of the winter to haul new equipment in over the snow trails while the roads were hard. Crow's Nest's No. 1 has been carried to 3,260 feet. At this depth a show of light crude was had, after which the hole bridged. Commercial production was claimed at one time but the test has been more or less inactive for several years. The company located a second test on Sage Creek, but little work has been reported. The crude is reported similar to the light crudes of the Turner Valley.

Two other tests on Sage Creek may be active this season. Majestic Oils' No. 1 had a derrick up last year; while British Columbia Oil & Gas Co.'s No. 1 is reported to have done some work. In the adjacent areas, Canadian-Kootenay Oil Co. some time ago spotted its No. 1 test in the Flathead Valley, and Akamina Valley Oil Co. is reported to have derrick up on Akamina Creek.

Lulu Island

A potential area for gas development is the Lulu Island district, not far from Vancouver. International Pipe Lines, Ltd., has been active in this district. International's No. 1 near Steveston was an old deep test cleaned out to test a gas horizon below 800 feet. Subsequently three other tests were drilled to depths ranging from 820 to 920 feet. Small commercial gas flows were reported in all wells, but difficulty was experienced with the wells rapidly sanding up. This trouble was last year reported overcome in No. 4 by use of special equipment; and if arrangements can be made for marketing the production, further development will probably take place this year. Altamont Oil Co. last year located a test in the Steveston area but only preliminary work has been done.

The adjacent Sumas Prairie area was originally developed by the Sumas Oil & Gas Co. Lancashire Oils, Ltd., of Calgary last year took over some of the Sumas interests, and deepened one of the Sumas wells to 891 feet. Several holes in this area have been lost as a result of caving, but Lancashire's No. 1 Sumas has been carried into a fairly stiff sand at 891 feet. It is planned to run the 8-inch casing to the top of this sand and drill deeper. At Abbotsford, in the same general area, British Columbia-Alberta Oils' No. 1 was started last year in SE, Section 20-16-ECM, but has been shut down through the winter.

Kelowna District

In the Kelowna district, Okanagan Oil & Gas Co.'s No. 1, Section 2-26-Osoyoos, is shut down at 2,265 feet. This test, originally started by E. G. McKenzie and associates of Vancouver, later organized as the Okanagan Oil & Gas Co., reported small gas shows at 1,826 feet and 2,050 feet and at last reports had a hole full of water. Plans were bing made to drill deeper.

Quesnel

Definite plans are being made for resumption of Cariboo Oil Co.'s No. 1 on the Australian ranch near Quesnel. Frank Patrick and associates of the Cariboo company will resume drilling about April 1. It is claimed the test encountered good shows of paraffin base crude in sands topped by shale at 800 feet, 1,808 feet and 1,278 feet; and the location is claimed to be on a symmetrical closed structure about 2 miles wide and 15 miles long. Following the reports of oil showings the British Columbia government last spring reserved the Quesnel area from further leasing and drilling. The last reported depth of Cariboo's No. 1 was 1,400 feet.

Saskatchewan Operations

In the Simpson area, southeastern Saskatchewan, Simpson Oil Co.'s No. 1, Section 9-29-25w2, is running casing and installing pumping equipment preparatory to testing salt brine encountered at 3,500 feet for its test for oil.

Drilling in Ontario

In Lambton County, work is being started on an important new test in Sombra Township, where Dawn Oil & Gas Co. of Chatham, headed by Frank H. Stover, recently spotted its No. 1 test in E half of Lot 25, Concession 9. The company is planning to drill three tests of the Dawn gas sand. No. 1 location is in an almost direct east and west line with a string of good producers drilled by the Union Gas Co. in the Dawn Field, and will test a possible western extension.

In Brooke Township, Lambton County, Michigan Pacific Oil & Gas Co.'s No. 1, Lot 10, Concession 12, is reported drilling around 1,500 feet without a show. This test, which failed to get oil in the shallow horizon, is being deepened to test the possibilities of gas production similar to that in the Dawn Field.

In the old Tilbury Field, Kent County, Doctor Elgie and associates of Chatham are reported planning to drill for gas between Glenwood and Stevenson, in Tilbury East Township.

In the Olga Field, Raleigh Township, Kent County, Olga Oil & Gas Co. is reported to have made two tentative locations.

KANSAS FIELDS

(Continued from Page 27)

completed in Stevens, Morton, Grant, Haskell and Seward Counties in Kansas, and Texas County in Oklahoma. The proven land is given as 1,076,400 acres. There are no carbon black plants in the area, as has been reported, nor any gasoline extraction plants, although Superintendent Joe E. Smith of the Argus, Western and Missouri Valley companies says some of the operators in the field intend to construct such plants as soon as their markets reach a sufficient volume to make the plants pay.

Butler County

Ramsey and others' No. 1 Ramsey, SE cor. NE Section 1-24-5, is a rig under construction.

Coffey County

Hegberg and others' No. 1 Krast, SE cor. SW SE Section 30-22-14, has been abandoned at 1,815 feet.

Douglas County

Huett & Lewis moved a machine in for No. 1 Dodder, CNL SW Section 7-15-18.

Ellsworth County

Gypsy Oil Co. and Palmer's No. 2 Stoltenberg, NW cor. NE SW Section 22-16-10w, is a rig under construction. Aylward and others moved material to the location for No. 4 Stratman, NW cor. NE SE Section 1-17-10w.

Greenwood County

Aikman & Braden's No. 1 Povemire, NE cor. SE SE Section 15-22-13, is spudding. Harwood Oil Co. and others made location for No. 2 Carson, NE cor. NW Section 33-23-11. No. 1 Carson, NW cor. NE Section 33-23-11, has been completed for 226 bbls. in sand 1,973-93 feet.

Harvey County

Joe Liggett and others made location for No. 1 Voshell, NE cor. SW Section 3-23-3w. Imo Oil & Gas Co.'s No. 1 Lehman, NE cor. SE Section 35-22-2w, has been completed for 150 bbls. in chat 2,957-83 feet.

Marion County

Bednour and others' No. 1 Bemhardt. SW cor. NE Section 16-17-4, has been abandoned at 2,660 feet.

McPherson County

Dietrick and others made location for No. 1 Sinclair, SE cor. SW Section 25-19-1w. Vernon Oil & Gas Co. is erecting the rig for No. 1 Lewis, SE cor. SW Section 26-19-2w. Lario Oil Co. and Shell Petroleum Corp.'s No. 1 Law, NE cor. Section 24-19-2w, has been completed for 844 bbls. in Viola lime 3,425-30 feet.

Morris County

Loomis and others' No. 1 Lowery, NW cor. NE Section 22-16-7, has been completed for 85 bbls. in sand 443-67 feet.

Reno County

Olsen & Shell Petroleum Corp. made location for No. 1 Johnson, CW SW NW Section 24-23-4w. Location has also been staked for No. 1 Roberts, C NW NW Section 25-23-4w. Material is being moved in for No. 1 Goering, C NE SW Section 26-23-4w.

Sedgwick County

Continental Oil Co.'s No. 1 Brown. NW cor. SW Section 15-25-1e, made 80 bbls. in lime 2,614-18 feet.

OKLAHOMA FIELDS

(Continued from Page 26)

bbls. of oil after two shots. It was drilled to the lower Wilcox sand at 4,217-44 feet and shot with 10 and 20 quarts.

Leasing in Seminole County

Activity has increased in securing semi-wildcat leases in Seminole County, while other companies are renewing their leases. Some attempts are being made to reduce rentals in the area. Recent transactions include leases to W. O. Allen, on NE NE and S half NE SE and NW SE and NW NE, Section 7-6-7, and NW NW, Section 8-6-7, and S half SW, Section 5-6-7. E. A. Austin has leased the SW SW, Section 1-5-7, and E half W half SE SE, Section 2-5-7. Producers & Refiners Corp. has renewed the lease on the NE NE, Section 19-8-7. Prairie Oil & Gas Co. renewed the lease on W half SW and NE SW, Section 24-6-7, and the E half SE, Section 20-9-8, and N half Section 33-6-7, and NW Section 8-10-6.

Atlantic Oil Producing Co.'s No. 1 Bebee, NE cor. SW SW, Section 8-13-6, Lincoln County, found the top of the Mayes lime at 3,970 feet, the Woodford at 4,180 feet and the Hunton lime at 4,207 feet. It was drilling at 4,357 feet. The top of Viola was 4,350 feet. Cores taken showed a slight oil saturation.

Barnsdall Oil Co. and others' No. 1 Taylor, SW cor. NW, Section 17-14-5, Lincoln County wildcat, probably will be abandoned after plugging back from the Wilcox sand where it found water in both the upper and lower horizons. The test was plugged back from a total depth of 4,756 feet, in Wilcox sand to 4,706-33 feet where it showed water. The casing was ripped at 4,525-30 feet where more water was found. The test is now shut down.

Hilton Phillips and others' No. 1 A. Phillips, SW cor. NW, Section 3-14-3, another wildcat in Lincoln County, was drilling around 3,500 feet. It is drilling in the second hole, the first was plugged on account of a fishing job.

Penrod & Thompson's No. 1 Barnett, SE cor., Section 19-12-14, McIntosh County, was an old producing well drilled deeper from the Wilcox sand to the Turkey Mountain sand at 3,017-72 feet, where it made 20,000,000 feet of gas a day.

In Southern Field

Production in the Tatums Pool, in Carter County, was extended to the east by Amos Drilling Co. and Walter Gant's No. 1 Short, SW cor. Section 18-1s-2w, which swabbed 72½ bbls. of oil the first hour and then flowed at the rate of 65 bbls. an hour. It filled a 500-bbl. tank and was then shut in. Production was found in a series of sands at 1,852-2,015 feet, with the total depth 2,067 feet.

Carter Oil Co.'s No. 1 Lynn, SW cor. SE NE Section 31-1s-2w, southeast of the Tatums Field, also extending production southeast of production in the field, was swabbing 176 bbls. of oil a day from a series of sands at 1,700-2,141 feet, with the total depth 2,195 feet.

These wells prove considerable more territory and later in the year may lead to active developments. When the market demands increase the territory between these wells will be tested.

In Stephens County, Continental Oil Co.'s No. 2 Dare, NW cor. SW SE Section 2-2s-8w, found a water sand at 1,670-76 feet, with a showing of oil and was landing casing to shut off the water and drill deeper.

Chambers and others' No. 1 Pollard, NW cor. SE SE Section 2-2s-8w, Steph-

ens County, found showings of oil in sand at 1,394-1,407 feet, and in sand at 1,415-25 feet. The casing was cemented and is preparing to drill plug.

George Pace and others' No. 3 Allen, NW cor. SE SE Section 3-2s-8w, has landed casing at 1,439 feet, after finding an oil sand at 1,442-48 feet. Same operators' No. 2 Green, SE cor. SW NE Section 2-2s-8w, is a new location.

Marshall County is becoming active where the sands are shallow and the oil has a local market. Neff and others' No. 6 Marshall, SW cor. NE SE Section 30-5s-6, was drilling at 585 feet, expecting to reach the pay horizon in a few feet.

Dillingham and others' No. 1 Franklin, NW NE SW Section 33-6s-7, Marshall County, was drilling at 1,010 feet.

C. Davis and others' No. 1 Minter, SW cor. NW SW Section 30-7s-6, landed casing at 456 feet, and found the top of the sand at 481 feet, and was drilling the cement plugs.

Seminole Production

The production from the Greater Seminole area for the week ending March 5, was approximately 138,155 bbls. a day. The Seminole Field, which includes the first 12 pools listed below averaged 100,340 bbls.:

Pool—	Bbls.
Little River	18,765
East Little River	4,120
Carr City	10,385
Maud	2,055
Mission	5,600
Bowlegs	11,145
Earlsboro	13,540
South Earlsboro	1,595
East Earlsboro	10,900
Seminole	17,865
East Seminole	1,180
Searight	3,190
Total	100,340
Allen	9,380
Asher	520
Wanette	3,330
Konawa	4,600
Sasakwa	1,860
St. Louis-Pearson	18,125
Total	138,155

Creek County

Holmes Oil Co. and others made location for No. 1 Deere, SE cor. SW SE, Section 25-19-9. Smith & Woods staked location for No. 1-A McNulty, SE cor. SW NW, Section 6-18-10. McCurry and others' No. 2 Watkins, CSL NE SW, Section 28-17-11, is a location. Gled Oil Co.'s No. 2 D. Bible, SW cor., Section 21-19-9, has been abandoned at 2,343 feet. Krasne Drilling Co.'s No. 2-A Harry, SE cor. SW SE, Section 4-17-11, is dry and abandoned at 1,849 feet. McCurry and others' No. 1-A Reed, SE cor. NW SW, Section 28-17-11, is dry and abandoned at 1,857 feet. J. A. Allen and others' No. 1 Robinson, NW cor. SE SE NW, Section 32-17-11, has been completed for 25,000 feet of gas in sand 559-92 feet. Atlantic Oil Producing Co. and others' No. 1 Cooper, NW cor. SW, Section 26-14-10, made 156 bbls. in Misener sand 3,232-39 feet.

Hughes County

Mid-Continent Petroleum Corp.'s No. 1 L. Tiger, SE cor. SW NE, Section 9-7-8, has been deepened from 2,966 feet to 2,977 feet and flowed 55 bbls. in 2 hours.

Kay County

McDaniels and others' No. 1 Blumbaugh, C NW NE, Section 30-25-1e, is drilling at 910 feet. Harris & Haun's No. 1 Cole, C NE SE, Section 18-29-1e, has been deepened from 3,241 feet to 3,354½ feet and made 335 bbls. W. H. Atkinson and Eason Oil Co.'s No. 1 Hayes, SE cor. NE, Section 24-28-3, has been abandoned at 3,310 feet.

Marshall County

M. A. Neff and others' No. 2 Marshall, NE cor. SW NW SE, Section 30-5s-6, has been completed for 27 bbls. in sand 622-38 feet. C. Dillingham and M. A. Neff's No. 1 Franklin, NW cor. NE SW, Section 33-6s-7, is a dry hole at 1,147 feet. E. L. Harreld and Huason's No. 1 Williams, SW cor. SE NE, Section 24-7s-5, has been abandoned at 600 feet. F. H. E. Oil Co.'s No. 1 Byrd, SE cor. NE, Section 8-8s-6, has been abandoned at 931 feet.

Oklahoma County

Meyers Drilling Co.'s No. 1 Denham, SW cor. NW NW, Section 2-11-3w, Block 1, Lot 7, Armourdale Addition, Oklahoma City Pool, is rigging up rotary tools. R. A. McArthur and others made location for No. 1 Coates, SE cor. NE NW, Section 22-11-3w, Block 4, Spencer Addition.

Muskogee County

J. M. Foltz's No. 2 G. Island, NW cor. SE SE NW, Section 8-15-18, is drilling at 60 feet. B. W. Christian and others' No. 1 C. Morrison, C SW NW, Section 15-15-17, is dry and abandoned at 2,580 feet. Armstrong and others' No. 9 S. Morrison, C SW SW, Section 15-14-16, has been deepened to 1,580 feet and completed for 15 bbls.

Noble County

Peper and others' No. 1 Yost, NW cor. NE, Section 22-23-2w, is cleaning out to deepen from 2,420 feet.

Okmulgee County

M. H. Castleman's No. 5 B. Thomas, SW cor. SE, Section 23-14-14, has been completed for 40 bbls. in sand 936-1,000 feet. Iron Mountain Oil Co.'s No. 12 B. Aultman, CWL SE NE, Section 24-13-14, is dry and abandoned at 1,303 feet. Le Beene Drilling Co.'s No. 3 Tunnely, NE cor. SW SE, Section 32-12-12, has been abandoned at 2,510 feet.

Okfuskee County

Oklahoma Crude Oil Co.'s No. 1 Rogers, SE cor. NE SW, Section 8-12-7, is dry and abandoned at 2,805 feet.

Payne County

Willis Oil & Gas Co.'s No. 1-A Smith, NW cor. SE, Section 10-18-5, has been abandoned at 3,530 feet.

Pittsburg County

Ruby-Ann Oil Co.'s No. 1 George, CEL NW SE, Section 3-4-16, is drilling at 200 feet.

Pontotoc County

Bebee Oil Co. made location for No. 1 Starritt, SE cor., Section 29-5-5. Benedum & Trees' No. 2 Burk, NW cor., Section 33-5-5, is rigging up standard tools. L. Myers and others' No. 2 Myers, SE cor., Section 21-5-6, is rigging up standard tools. Smith & Bowles' No. 1 Miller, NW cor. NE SW, Section 27-5-6, is drilling at 75 feet. Sunbeam Oil Co. moved a machine in for No. 1 Miller, SW cor. NE NW, Section 27-5-6. Ada Development Co.'s No. 6 Lloyd, SE cor. NE NW NE, Section 6-3-7, has been completed for 20 bbls. in sand 1,198-1,226 feet.

Pottawatomie County

Phillips Petroleum Co.'s No. 1 Jordan, SE cor., Section 10-7-4, St. Louis area, is rigging up to deepen from 3,943 feet. Magnolia Petroleum Co.'s No. 2 F. Davis, NE cor., Section 15-7-4, is rigging up to deepen from 4,065 feet.

Seminole County

Gypsy Oil Co.'s No. 7 Chippy Coker, NW cor. SW SW, Section 2-8-5, Carr City Pool, has been completed for 127 bbls. in Wilcox sand 4,160-79 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Brown, SW cor. NE NW, Section 3-8-5, made 170 bbls. in Hunton lime 3,945-88 feet after plugging back from Wilcox sand.

Stephens County

Crane & Rankin made location for No. 1 Dare, SW cor. NW NW, Section 1-2s-8w. J. C. Chambers and others' No. 2 Dare, NW cor. NE SE, Section 2-2s-8w, is rigging up rotary tools. J. C. Chambers and others' No. 1 Dare, NW cor. SE SE, Section 2-2s-8w, has been completed for 10 bbls. in sand 1,415-25 feet. George Pace and others' No. 3 Allen, NW cor. SE SE NE, Section 3-2s-8w, has been completed for 2,740,000 feet of gas in sand 1,442-48 feet. Dameron-Branch's No. 1 Dameron, SE cor. SW NE, Section 11-3s-6w, has been completed for 2,000,000 feet of gas in sand 365-73 feet.

Tillman County

D. S. Smith is moving tools in to redrill No. 1 fee, NE cor. NW NW, Section 6-5s-15w, which was originally completed at 3,120 feet.

Tulsa County

West Petroleum Co.'s No. 10 Edwards, NE cor. SW SW, Section 1-18-12, has been abandoned at 2,668 feet. Chastain Oil Co.'s No. 1 A. Barnett, NE cor. SE NE SE, Section 13-18-14, is dry and abandoned at 1,323 feet. Dunn and others' No. 1 Flippen, NE cor. SW SE, Section 28-18-14, has been abandoned at 1,585 feet. Norfolk Oil Co.'s No. 1 M. Tiger, NW cor. NE NW, Section 19-16-14, has been abandoned at 2,105 feet.

Wagoner County

Sheridan Oil Co.'s No. 1 M. Drew, SW cor. NW NE, Section 26-18-15, is drilling at 875 feet. Sands Petroleum Co.'s No. 1 T. Robin, SW cor. SE SW, Section 23-18-15, has been completed for 3,000,000 feet of gas in sand 1,033-55 feet. W. J. Metzger's No. 6 J. Wilson, SW cor. NW, Section 30-17-17, made 5 bbls. in sand 1,322-37 feet.

ROCKY MOUNTAIN AREA

(Continued from Page 32)

low the caprock are considered very encouraging.

WYOMING

Fremont County

A new operation in the extreme southeastern corner of Fremont County, on the north flank of the Little Lost Soldier Dome, is preparing to get under way. The Tropic Oil Co. has filed notice of intentions to drill on the C SE SW, Section 34-27-90 with the U. S. Geological Survey. It is understood, however, actual drilling will be done by a Salt Lake syndicate. Derrick is being erected and materials are being moved in. The location is near a well drilled to a shallow depth several years ago by the Annabelle Oil Co.

Lander Corp.'s No. 2, NW cor. NE, Section 35-33-99, Bartram Gap, is bottomed at 2,620 feet in the top of the Tensleep and is waiting for a string of 5½-inch casing. Val H. Maghee is in charge.

Ward Oil & Gas Co.'s No. 2, NW cor., Section 27-34-90, Dutton Basin, has let contract to the Whipple Drilling Co. and this firm is moving in rotary equipment. The location is just east of No. 1 which was abandoned at 2,530 feet on account of a bad hole. It stopped in the third Frontier. It had good shows of both oil and gas.

Natrona County

Mutual Oil Syndicate's No. 2 Midway, C SW SE, Section 14-35-79, Midway Dome, is erecting derrick. The syndicate has taken over rotary tools and equipment of Olson Drilling Co., which had the contract for the discovery well on the offset acreage. Sidney H. Keoughan will make his headquarters at Casper and be in charge of the drilling.

Jarvis & McDonald's No. 1 Government, SE cor., Section 31-30-81, Spindletop Dome, spudded and shut down until road conditions improve. This location is west of three wells drilled by Wyalta Oil Co. in the SW SW, Section 32, which were completed in the Tensleep at 1,020 to 1,050 feet for about 75 bbls. each of black oil. The new operation will go to the Sundance, expected at 1,050 feet. This is a small dome with about 200 acres inside the closing contour. The dome has a known closure of 400 feet. The Morrison formation is at the surface. Iowa-Wyoming Oil Co.'s pipe line runs close to the well.

Summitt Oil Co.'s No. 1 Trewitt, NW cor., Section 21-33-80, which has been standing at 1,400 feet for some time, is preparing to resume.

Wyoming Imperial Oil Co.'s No. 1 Quintet, NW SE, Section 13-33-79, is rigged and ready to spud. It is reported this operation is to be consolidated with several small companies and that an announcement will be made shortly.

Weston County

Tug Oil Co.'s No. 1, NW cor. SW, Section 15-46-64, Osage Field, has fished out tools and is drilling ahead at 2,250 feet.

Sheridan County

R. & D. Oil Co.'s No. 1 Mock, NW cor. SE, Section 21-57-87, Smith Creek district, is drilling at 1,300 feet.

Park County

Midwest Refining Co.'s No. 4 Rosenberg, NE NW NE, Section 26-58-98, Frannie Dome, is drilling out cement after making a shutoff in the top of the Embar at a total depth of 3,256 feet.

MONTANA

Carbon County

Ohio Oil Co.'s No. 2 Robinson, C SE SE, Section 3-7s-21, Dry Creek, is spudding, and its No. 2 Montana Industrial, C NW SE, Section 11-7s-21, is drilling at 2,120 feet.

Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW, Section 7-7s-22, is drilling at 1,900 feet.

Ohio Oil Co.'s No. 1 Kuchinski, NW SE NE, Section 15-7s-22, Golden Dome, is drilling at 3,015 feet. Cores were taken in the Frontier.

Liberty County

California Co.'s No. 1 Ross, NE SE NE, Section 3-33-6e, Utopia district, is drilling at 2,640 feet near the top of the Kootenai formation and about 500 feet above a stray in the Ellis formation which carried a show of oil in the Eleanor Association test to the south.

Northland Oil & Gas Co.'s No. 1 Yurman, C SE SW, Section 32-33-5e, Liberty district, is drilling at 3,800 feet after being delayed by rig repairs.

Musselshell County

Minnesota-Flatwillow Oil Co.'s No. 1, SW NE SW, Section 25-11n-24, Devil's Basin, is drilling in the quadrant at 1,100 feet.

Fallon County

McDonald and others' No. 3, C SW, Section 28-8n-60, Cedar Creek, is cleaning out after cementing 8¼-inch at 1,682 feet.

Glacier County

Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36-12w, Milk River district, is shut down at 2,950 feet to install rotary to carry the hole to 4,200 feet. Milk River Petroleum Corp. is reported to have taken over this company and is planning to drill a second well.

Toole County

Oregon Oil Syndicate's No. 1 Barthelote, SW NE SE, Section 20-36-2e, Barthelote district, is fishing at 2,268 feet.

Pipe Line Runs

Average daily pipe line runs for the week ended March 5:

	Bbls.
WYOMING	
Salt Creek	23,00
Badger Basin	5
Big Muddy	1,68
Byron-Garland	1,09
Dallas-Derby	46
Dutton Creek	8
Elk Basin	65
Ferris	4
Frannie	18
Grass Creek	2,13
Hamilton Dome	75
Hudson	44
LaBarge	1,02
Lance Creek	9
Oregon Basin	57
Lost Soldier	2,76
Osage	71
Pilot Butte	6
Rock River	1,67
Poison Spider	3
Teapot	1
Total Wyoming	37,46
MONTANA	
Buckley-Border	48
Cat Creek	92
Dry Creek	30
Kevin-Sunburst	3,20
Lake Basin	6
Pondera	1,30
Total Montana	6,18
COLORADO	
Florence	36
Fort Collins	97
Iles	81
Moffat	75
Orchard	34
Rangely	2
Tow Creek	32
Total Colorado	3,57
NEW MEXICO	
Rattlesnake	7
Hogback	1
Table Mesa	5
Artesia	5
Cap Rock	5
Hobbs	31,3
Jal	9
Lea City	2,1
Eunice	3
Texas Pacific	1
Total New Mexico	36,9
Total Rocky Mountain area	84,2
Total previous week	84,1
Difference	

DAVID BOYLE DEAD

CHATHAM, Ontario, Mar. 5.—David Boyle, aged 75, died recently at Port Huron, Mich., hospital from revolver wounds following a long period of ill health. Mr. Boyle was at one time a prominent oil producer and driller in the Petrolia Field and was one of the first Petrolia men to drill in foreign fields.

In perfect step with the economic and conservation requirements of the industry. Bulletin No. 30-3 "The Petreco Process for the Electrical Dehydration of Crude Oil Emulsions" will be forwarded to any oil company on request.
Place your "cut oil" problems in the capable hands of the Official Oil Doctor.
PETROLEUM RECTIFYING CO.
OF CALIFORNIA
530 W. Sixth St., Los Angeles, Calif.
412 Petroleum Bldg., Houston, Texas
3218 Green Street, Fort Worth, Texas
PETRECO

EAST TEXAS PIPE LINE BUILT ON FAST SCHEDULE

(Continued from Page 37)

strength than the parent metal of the pipe.

The entire line was double wrapped with felts by hot asphalt application, using Texas Company materials.

Pumping Stations

New pumping stations were built at Dibold and Warren, using Diesel engines, direct connected through Falk herring-

Welding on the firing line.

bone speed increasing gears to centrifugal pumps. Additions were made to Texas Pipe Line Co. stations at Reiber, Douglas and Sour Lake.

All materials were purchased on the exact specifications of the Texas Empire Co. Materials with which the company had not had previous experience, as in the case of Aircowelding, were thoroughly tested by the company's engineers before acceptance for inclusion in the line. Specimen welds, made by welders who were later employed on the line, underwent complete laboratory examination. Inspectors were given instructions covering specific standards of quality to demand for workmanship in the field.

The successful conclusion of this project can be attributed in no small degree to the personal interest and direction of B. E. Hull, president of the Texas Pipe Line Co. The building of the line was under the general supervision of A. S. Bailey, vice president of the Texas Pipe Line Co. The field supervision was under O. R. Burden, who made his construction headquarters at Lufkin. The engineering was under Oscar Wolf, chief engineer of the Texas Pipe Line Co.

On its completion the line was placed in operation by the Texas Empire Pipe Line Co. of Texas.

EAST TEXAS FIELDS

(Continued from Page 38)

den, top sand 3,567 feet, initial production 150 bbls. per hour through open tubing, total depth 3,597 feet.

Harry Hamburry's No. 1 W. E. Foshee, top sand 3,667 feet, initial production 15 bbls. in 10 minutes through open tubing, total depth 3,687 feet. Houston Oil Co.'s No. 3 E. M. Clements, top sand 3,551 feet, initial production 97 bbls. per hour through three-fourths inch tubing choke, total depth 3,588 feet. Humble Oil & Refining Co.'s No. 4 J. F. Boles, top sand 3,591 feet, initial production 103 bbls. per hour through three-fourths inch tubing choke, total depth 3,641 feet; No. 6-A Delta Johnson, top sand 3,612 feet, initial production 96 bbls. per hour through three-fourths inch tubing choke, total depth 3,639 feet. Imperator Oil Co.'s No. 1 George Ritchie, top sand 3,683 feet, initial production 150 bbls. per hour through open tubing, total depth 3,713 feet. Kewanee Oil Corp.'s No. 4 Adams, top sand 3,571 feet, initial production 70 bbls. in 30 minutes through open tubing, total depth 3,612 feet. W. H. Lampton and others' No. 2 Spring Hill Church, top sand 3,595 feet, initial production 97 bbls. per hour through open tubing, total depth 3,635 feet.

Devonian Oil & Gas Co.'s No. 2 L. C. Ingram, top sand 3,523 feet, initial production 110 bbls. per hour through three-fourths inch tubing choke, total depth 3,563 feet. Dillard Oil Co.'s No. 6 Jones, top sand 3,637 feet, initial production 30 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,642 feet. East Texas Refining Co.'s No. 1 Tom Christian, top sand 3,624 feet, initial production 70 bbls. in 45 minutes through 1-inch tubing choke, total depth 3,661 feet; No. 3 Guy Hyman, top sand 3,612 feet, initial production 75 bbls. per hour through 1-inch tubing choke, total depth 3,630 feet. Gregg Oil Co.'s No. 1-F T. P. Ry., top sand 3,514 feet, initial production 29 bbls. in 15 minutes through open tubing, total depth 3,687 feet.

Magnolia Petroleum Co.'s No. 4 H. Key, top sand 3,521 feet, initial production 208 bbls. per hour through open tubing, total depth 3,538 feet. J. H. Massie and others' No. 2 J. W. Orr, top sand 3,611 feet, initial production 61 bbls. in 15 minutes through open tubing, total depth 3,674 feet. Navarro Oil Co.'s No. 3 T. B. Harris, top sand 3,509 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,537 feet. Phillips and Lee's No. 2 Woods, top sand 3,640 feet, initial production 20 bbls. in 10 minutes through 1-inch tubing choke, total depth 3,652 feet. Rajo Oil Co.'s No. 1 Berrett, top sand 3,660 feet, initial production 60 bbls. per hour through 1-inch tubing choke, total depth 3,666 feet. Roeser and Pendleton's No. 4 J. E. Sherfield, top sand 3,618 feet, initial production 168 bbls. per hour through open tubing, total depth 3,644 feet.

Seigler and McCall's No. 3 M. Young, top sand 3,479 feet, initial production 30 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,565 feet. Shasta Oil Co.'s No. 2-A T. D. Campbell, top sand 3,552 feet, initial production 30 bbls. in 15 minutes through 1-inch tubing choke, total depth 3,604 feet. Shell Petroleum Corp.'s No. 3 Akins, top sand 3,550 feet, initial production 20 bbls. in 30 minutes through tapered tubing, total depth 3,638 feet; No. 3 Basshorn, top sand 3,554 feet, initial production 15 bbls. in 15 minutes through tapered tubing, total depth 3,648 feet; No. 3 A. N. King, top sand 3,609 feet, initial production 20 bbls. in 30 minutes through tapered tubing, total depth 3,524 feet.

Stanolind Oil & Gas Co. and others' No. 3C J. J. Flewellen, top sand 3,640 feet, initial production 150 bbls. per hour through open tubing, total depth 3,659 feet; No. 3 Albright, top sand 3,541 feet, initial production 136 bbls. per hour through open tubing, total depth 3,632 feet; No. 3 H. Key, location abandoned. Superior Oil Co.'s No. 5 Jones, top sand 3,614 feet, initial production 95 bbls. in one-half hour through tapered tubing, total depth 3,657 feet.

Tidal Oil Co.'s No. 5 J. J. Castleberry, top sand 3,560 feet, initial production 80 bbls. per hour through three-fourths-inch tubing choke, total depth 3,570 feet. Yount Lee Oil Co.'s No. 2 I. Benson, top sand 3,636 feet, initial production 75 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,656 feet; No. 5 Orms, top sand 3,538 feet, initial production 94 bbls. per hour through open tubing, total depth 3,655 feet. C. C. Julien and J. W. Herrold's No. 2 J. M. England, top sand 3,532 feet, initial production 70 bbls. per hour through three-fourths-inch tubing choke, total depth 3,580 feet. Gulf Production Co.'s No. 14 Spear, top sand 3,559 feet, initial production 82 bbls. per hour through three-fourths-inch tubing choke, total depth 3,572 feet. Prairie Oil & Gas Co.'s No. 3 A. S. Lockhart, top sand 3,602 feet, initial production 102 bbls. per hour through three-fourths-inch tubing choke, total depth 3,612 feet.

Ruston Drilling Co.'s No. 2 R. Lacy, top sand 3,526 feet, initial production 75 bbls. per day pinched, total depth 3,560 feet. J. C. Means, Jr.'s No. 2 W. P. Lucy, top sand 3,540 feet, initial production 25 bbls. first 10 minutes through open tubing, total depth 3,557 feet. Steen Drilling Co.'s No. 4 W. D. Lacy, top sand 3,526 feet, initial production 120 bbls. per hour through three-fourths-inch tubing choke, total depth 3,630 feet. Doctor Thompson's No. 2 King, top sand 3,630 feet, initial production 150 bbls. per hour through five-eighths-inch tubing choke, total depth 3,640 feet. Tidal Oil Co.'s No. 6 M. G. Barton, top sand 3,614 feet, initial production 75 bbls. per day pinched, total depth 3,628 feet. Wells and Gann's No. 1 Hawkins, top sand 3,654 feet, initial production 30 bbls. per hour through tapered tubing, total depth 3,661 feet.

Smith County

Droopleman Drilling Co.'s No. 1 DeQuerin, top sand 3,687 feet, initial production 185 bbls. per hour through open tubing, total depth 3,694 feet. W. L. Session's No. 1 Attaway, top sand 3,811 feet, initial production shut in for pipe line connection, no gauge, total depth 3,813 feet. Sun Oil Co.'s No. 7 J. D. Henson, top sand 3,691 feet, initial production 97 bbls. per hour through tubing, total depth 3,696 feet. Willford Co.'s No. 1 S. S. Cooke, top sand 3,758 feet, initial production 65 bbls. in one-half hour through open tubing, total depth 3,765 feet.

Rusk County

Devonian and Gulf Production Co.'s No. 9 Motley, top sand 3,692 feet, initial production 100 bbls. per hour through three-fourths-inch tubing choke, total depth 3,702 feet. John B. Gregory's No. 1 R. M. Leath, dry and abandoned, total depth 2,021 feet. Karona and Houston Oil Co.'s No. 2 Peterson, location abandoned. Humble Oil & Refining Co.'s No. 1-C W. P. Moore, top sand 3,692 feet, initial production 51 bbls. in one-half hour through three-fourths-inch tubing choke, total depth 3,684 feet. Lewis Production Co. and Selby Oil & Gas Co.'s No. 4 L. C. Pegues, top sand 3,620 feet, initial production 220 bbls. per hour through 2½-inch tubing choke, total depth 3,690 feet.

N. G. Sampson's No. 1 Brock Estate, top sand 3,638 feet, initial production 75 bbls. per day pinched, total depth 3,556 feet. Shell Petroleum Corp.'s No. 9 Rosa Russell, top sand 3,581 feet, initial production 21 bbls. in one-half hour through tapered tubing, total depth 3,633 feet. Arkansas Fuel Oil Co.'s No. 7 Bealle, location abandoned. Arrow Drilling Co.'s No. 3 Rollins, top sand 3,615 feet, initial production 220 bbls. per hour through open tubing, total depth 3,629 feet. George Demonstrand's No. 1 L. J. Pinkston, top sand 3,597 feet, initial production 80 bbls. in one-half hour through open tubing, total depth 3,622 feet. Gulf Production Co.'s No. 6 E. E. Thrash, top sand 3,734 feet, initial production 85 bbls. in one-half hour through open tubing, total depth 3,754 feet.

Humble Oil & Refining Co.'s No. 2 Virginia Turner, top sand 3,715 feet, initial production 52 bbls. in one-half hour through three-fourths-inch tubing choke, total depth 3,740 feet; No. 9 J. E. Whellis, top sand 3,762 feet, initial production 52 bbls. in one-half hour, total depth 3,766 feet.

H. L. Hunt, trustee's No. 2-D Fair, top sand 3,670 feet, initial production 50 bbls. per hour through open tubing, total depth 3,678 feet. Kirby Petroleum Co.'s No. 2-B Gramling, top sand 3,671 feet, initial production 200 bbls. per hour through tubing, total depth 3,767 feet. M. H. McMurray's No. 2 Blackwell, top sand 3,663 feet, initial production 75 bbls. in one-half hour through open 2½-inch tubing choke, total depth 3,672 feet. Mid-Kansas Oil & Gas Co.'s No. 2 T. O. Warren, top sand 3,624 feet, initial production 70 bbls. per hour through 1-inch tubing choke, total depth 3,655 feet. Perry-Woody and Boller's No. 4 Thrash, top sand 3,626 feet, initial production 30 bbls. per hour through open tubing, total depth 3,682 feet.

Spider Oil Co.'s No. 1 Florey and Neal, top sand 3,812 feet, initial production 300 bbls. in three and one-half hours through open tubing, total depth 3,836 feet. Standard Pipe & Supply Co.'s No. 3 Brett, top sand 3,673 feet, initial production 121 bbls. per hour through open tubing, total depth 3,735 feet. Stanolind and Pure Oil Co.'s No. 2 R. A. Moores, top sand 3,604 feet, initial production 100 bbls. per hour through 2-inch tubing choke, total depth 3,610 feet. Tulsa Oil Co.'s No. 2 C. F. O'Quinn, top sand 3,788 feet, initial production 131 bbls. in 45 minutes through 1-inch tubing choke, total depth 3,796 feet. Grady Vaughan's No. 4 W. O. Alford, top sand 3,821 feet, initial production 150 bbls. per hour through tubing, total depth 3,825 feet.

Upshur County

Atlantic Oil Producing Co.'s No. 8 Moyers, top sand 3,583 feet, initial production 16 bbls. in one-quarter hour through 1-inch tubing choke, total depth 3,630 feet. Conservative Oil Co.'s No. 1 Victory, top sand 3,660 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,696 feet. Falvey and others' No. 1 S. D. Rodden, top sand 3,762 feet, initial production 75 bbls. per hour through 1-inch tubing choke, total depth 3,774 feet. Humble Oil & Refining Co.'s No. 11 Edwards, top sand 3,557 feet, initial production 15 bbls. in one-quarter hour through 1-inch tubing choke, total depth 3,627 feet; No. 13 Edwards, top sand 3,659 feet, initial production 61 bbls. per hour through three-quarters-inch tubing choke, total depth 3,684 feet; No. 2 E. W. Smith, top sand 3,630 feet, initial production 53 bbls. per hour through three-quarters-inch tubing choke, total depth 3,638 feet.

Jackson and Bradstreet's No. 1 Victory, top sand 3,605 feet, initial production 120 bbls. per hour through open tubing, total depth 3,629 feet. Sorrells and others' No. 1 Brawley Estate, top sand 3,746 feet, initial production 75 bbls. per day flowing by heads, total depth 3,753 feet. Steen Drilling Co.'s No. 2 Phillips, top sand 3,675 feet, initial production flowing by heads 75 bbls. per day, total depth 3,683 feet. Sun Oil Co.'s No. 3 J. Hargrove, top sand 3,680 feet, initial production 60 bbls. per hour through open tubing, total depth 3,689 feet.

Wood County

Yankee Oil Co.'s No. 1 Davis, dry and abandoned, total depth 4,200 feet.

Van Zandt County

Pure Oil Co.'s No. 1-T V. T. Davis, plugged and abandoned, total depth 7,501 feet; No. 5 M. P. Neill, initial production 182 bbls. through eleven-sixteenths-inch tubing choke, total depth 2,948 feet.

DAILY AVERAGE OIL SHIPMENTS FROM EAST TEXAS

(Week Ending February 29)

Shipments Through Main Trunk Lines

Company, size and location—	Bbls.
Arkansas P. L. Co., 8-in., Shreveport	12,247
Atlantic P. L. Co., 10-in., Atreco	15,738
Atlas P. L. Co., 8-in., Shreveport	3,115
Gulf P. L. Co., 2-8-in., Oklahoma	9,576
Gulf P. L. Co., 2-8-in., Port Arthur	20,358
Humble P. L. Co., 2-10-in., Shreveport	33,735
Humble P. L. Co., 2-8-in., Todd	26,711
Liberty P. L. Co., 8-in., Rusk	2,293
Magnolia P. L. Co., 10-in., Center	23,886
Magnolia P. L. Co., 12-in., Corsicana	23,850
Shell P. L. Corp., 10-in., Houston	20,928
Sinclair-Texas P. L., 12-in., Teague	18,157
Sun-Yount Lee P. L., 10-in., Sun City	14,304
Texas P. L. Co., 10-in., Douglass	30,486
Texas-Empire P. L. Co., 12-in., Port Arthur	31,720
Total	287,104

Shipments to Refineries

Arrow Ref. Co., Overton	S.D.
Beacon Ref. Co., Henderson	780
Boone Ref. Co., Arp	500
Central Ref. Co., Friars Switch	S.D.
Constantin Ref. Co., Overton	S.D.
Diamond Ref. Co., Overton	262
East Texas Ref. Co., Longview	5,715
East Texas Ref. Co., Friars Switch	3,832
Gladetex Ref. Co., Gladewater	325
Gladewater Ref. Co., Gladewater	365
Kilgore Ref. Co., Kilgore	460
Overton Ref. Co., Overton	750
Petroleum Refractionating Co., Longview	S.D.
Sinclair Oil & Gas Co., Longview	862
Slack Ref. Co., Camp Switch	S.D.
Southern Oil Ref. Co., Reed Switch	500
Taylor Ref. Co., Tyler	720
V. O. E. Ref. Co. (was Mackey Ref. Co.), Gladewater	S.D.
Total	15,072

Shipments by Tank Car

East Texas Ref. Co. from Longview	76
Tidal Oil Co. from Camp Switch	171
Total	247
Total daily average distribution	302,423
Total daily average production	309,918
Daily average to storage	7,466

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 40)

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W. cor. SE, Sec. 200, Blk. 2-B, H.&G.N. Sur. ..... S.D. 3,010 ft.; cleaned up fishing job.

Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W of NW SW, Sec. 106, Blk. 3, I.&G.N. Sur. ..... T.D. 3,133 ft.; running 5-in. csg.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... S.D. 2,620 ft.; estimated 4,000,000 ft. gas.

Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur. ..... S.D. 2,600 ft.; show oil 2,525-40 ft.

Operators Royalty & Prod. Co.'s No. 2 Arnold, 330 ft. from S and W, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Rig.

Pulse-Shell Pet. Corp.'s No. 1 Wright, 330 ft. from S and W of Sec. 13, Blk. 3, I.&G.N. Sur. ..... S.D. 2,659 ft.

Prairie Oil & Gas Co.'s No. 1 Pope, 330 ft. from N and E, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,850 ft.

Saunders et al's No. 2 Sullivan, 322 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.

Skelly Oil Co.'s No. 24 Schaffer, 440 ft. from W, Sec. 172, Blk. 3, I.&G.N. Sur. ..... Drlg. 3,075 ft.

Skelly Oil Co.'s No. 25 Schaffer, 330 ft. from S and E, Sec. 189, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,540 ft.

Skelly Oil Co.'s No. 26 Schaffer, 330 ft. from S and W, Sec. 172, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,910 ft.

Skelly Oil Co.'s No. 28 H. Schaffer, 440 ft. from S line and 440 ft. from E line of NE Sec. 189, I.&G.N. Sur., Blk. 3 ..... Rigging up rotary.

Stanolind Oil & Gas Co.'s No. 2 Waggoner, 330 ft. from N and W, Sec. 173, Blk. 3, I.&G.N. Sur. ..... T.D. 1,125 ft.; running 10-in. csg.

Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ..... Fishing 2,880 ft.

Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. ..... Location.

HUTCHINSON COUNTY

Baso's No. 1 Moore, 330 ft. from S and 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. ..... T.D. 1,650 ft.; set 10-in. csg.

Combination O. & G. Co. and Alspaugh's No. 1 Johnson, 330 ft. from S line, 330 ft. from E line of NW SW, Sec. 4, Blk. Y, A.&B. Sur. ..... Drlg. 675 ft.

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 24, Blk. Y, A.&B. Sur. ..... Spudded and S.D.

Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. ..... S.D. 450 ft.

Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... T.D. 3,116 ft.; to plug back.

Oates and Marrow's No. 1 W. A. Starnes, C SE SW SE Sec. 24, M-23 T.C.R.R. Sur. ..... Rig.

Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur. ..... Spudded.

Harry Stekoll's No. 1 Whittenburg, 1,650 ft. from N, 330 ft. from E, Sec. 89, Blk. Z, G.C.&S.F. Sur. ..... Drlg. 2,885 ft.

Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... Shut down; drlg. water well.

Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Rig up.

Magnolia Pet. Co.'s No. 1 Nield, 330 ft. from S and E of N½, Sec. 36, Blk. 44, H.&T.C. Sur. ..... Drlg. 2,825 ft.

Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.

Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.

Sunset Oil Co.'s No. 1 R. O. Brumley, 330 ft. from N line and 330 ft. from W line of SW, Sec. 360, H.&T.C. Sur. ..... Drlg. 1,850 ft.

Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.

Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.

Texhoma Nat. Gas Co.'s No. 4 Coon "M," C SE, Sec. 103, Blk. 44, H.&T.C. Sur. ..... Drlg. 2,725 ft.; standard tools.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.

Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 3,555 ft.

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W, SE, Sec. 73, H. Kelly Sur. ..... T.D. 3,900 ft.; pulling pipe.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... T.D. 3,990 ft.

Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,650 ft.

WHEELER COUNTY

Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E of E½ of Sec. 33, Blk. 24, H.&G.N. Sur. ..... S.D. 2,193 ft.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 40)

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 330 ft. from E, Sec. 200, Blk. 1, B.B.B.&C. Sur. ..... T.D. 3,938 ft.

Southern Oil Corp. of America's No. 1 Wm. Flannigan, 240 ft. from E and 165 ft. from W line of S 20 acres of SW, Sec. 20, B.B.B.&C.R.R. Sur. ..... Drlg. 2,500 ft.

GLASSCOCK COUNTY

Mann et al's No. 1 fee, 330 ft. from N and 1,980 ft. from E, Sec. 27, Blk. 34, Twp. 3s, T.&P. Sur. ..... Drlg. 875 ft.

GARZA COUNTY

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Fishing for 6⅝-in. csg.; T D 3,320 ft.

HOWARD COUNTY

American-Maracaibo's No. 5-A Settles, 1,896 ft. from N, 1,884 ft. from W, Sec. 6, Blk. 32, T.&P. Sur. ..... Cellar.

Chalk's No. 1 fee, 330 ft. from S and E Sec. 96, Blk. 29, W.&N.W. Sur. ..... Drlg. 500 ft.

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W, Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur. .. Spudded and S.D.

Wallace et al's No. 1 Bell, 1,960 ft. from N, 2,640 ft. from W, Sec. 12, Blk. 30-1s, T.&P. Sur. ..... Material.

IRION COUNTY

Apollo Oil Co.'s No. 4 Nutt, 504 ft. from N and 1,562 ft. from W of Subd. No. 6, Gonzales County School Land ..... Location.

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W, Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Drlg. 6,530 ft.

Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... Drlg. 7,365 ft.

Straughn & Adkins Bros.' No. 1 Lee, 1,980 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur. ..... S.D. 1,395 ft.

JONES COUNTY

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... Rig.

Grove & Shield's No. 1 Toomie, 1,140 ft. from N and 220 ft. from E Sec. 25, Blk. 19, T.&P. Sur. ..... Location.

Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temp. abnd.

Transcontinental Prod. Co.'s No. 1 Rust, 5,800 ft. N and 995 ft. W of SE cor. J. J. Hughes Sur. 556 ..... Cellar.

LOVING COUNTY

Wm. Little's No. 1 Hugo Freels, 1,923 ft. from NE lines and 410 ft. from NW lines of Sec. 92, W.&N.W. Sur., Blk. 1 ..... Drlg. 840 ft.

Adams et al's No. 1 Wheat, 330 ft. from SE and SW of Sec. 89, Blk. 1, W.&N.W. Sur. ..... S.D. 4,403 ft.; cleaning out after shot.

Eppenauer Drlg. Co.'s No. 1 Allen, 465 ft. from NE and SE, Sec. 4, Blk. 2, W.&N.W. Sur. ..... S.D. 200 ft.

Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S, Sec. 46, Blk. 53, T.&P. Sur. ..... S. D. 810 ft.

Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. ..... T.D. 4,265 ft.; flows 60 bbls. every other day; cleaning out.

Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW, Sec. 79, Blk. 33, H.&T.C. Sur. ..... Drlg. 2,680 ft.

Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur. .. T.D. 800 ft.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... S.D. 3,385 ft.

Miller et al's No. 1 Ferguson, 990 ft. from N and E of Sec. 44, Blk. 29 ..... Location.

Phillips Pet. Co.'s No. 3 Wheat, 330 ft. from SW and 2,310 ft. from SE, Sec. 85, Blk. 1, W.&N.W. Sur. ..... T.D. 4,117 ft.; running 6⅝-in. csg.

Stein & Bowers' No. 1 Jim Wheat, 1,650 ft. from NW and 1,650 ft. from NE lines of Sec. 83, W.&N.W. Sur., Blk. 1 ..... Location.

Tennant et al's No. 1 Martin, 990 ft. from NW and SW, Sec. 66, Blk. 1, W.&N.W. Sur. ..... S.D. 4,380 ft.; to run csg.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ..... S.D. 2,860 ft.

PECOS COUNTY

Anderson's No. 1 Lee Fever, 330 ft. from N and W of Sec. 78, Blk. 8, H.&G.N. Sur. ..... S. D. 2,037 ft.

Black et al's No. 1 Pecos Valley, 1,037 ft. from SE, 433 ft. from SW, Sec. 36, Blk. 3, H.&T.C. Sur. ..... Drlg. 770 ft.

Cardinal Oil Co.'s No. 1 J. H. Tippett ("J"), 1,980 ft. from the S line and 990 ft. from the W line of Sec. 2, D. F. Robertson Sur. ..... S.D. 675 ft.

Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 ..... Location.

Culberson Bros.' No. 4 Tippett, 150 ft. from N and 1,335 ft. from W of SE Sec. 40, Blk. 194, G.C.&S.F. Sur. ... Location.

Hampton et al's No. 1 Byrne, 1,980 ft. from NW and 1,500 ft. from NE Sec. 54, Blk. 10, H.&G.N. Sur. .... Drlg. 665 ft.

Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Drlg. 1,355 ft.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 2,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. ..... Material.

REAGAN COUNTY

Big Lake Oil Co.'s No. 6-C University, 1,370 ft. from S and 1,000 ft. from E, Sec. 12, Blk. 2 ..... T.D. 4,810 ft.; running 9⅝-in. csg.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W, Sec. 68, Cassel's Sur. ..... S.D. 75 ft.

F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur. .... S.D. 105 ft.

James & Milton's No. 1 Patterson, 330 ft. from N and W of Sec. 21, Blk. 72 ..... S.D. 3,360 ft.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. ... S.D. 5,044 ft.

RUNNELS COUNTY

Blue Bonnett Oil Co.'s No. 1 McMillan, 1,368 ft. from N and 660 ft. from W Sec. 22, N. Travis Sur. ..... Location.

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,427-20 ft.; S.D. 3,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C, Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Drlg. 5,025 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T. C. Sur. ..... Fishing 5,580 ft.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,050 ft.

Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.

Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 3,900 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,269 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C, Sec. 6, Georgetown Ry. Sur. ..... S. D. 3,150 ft.; moved off tools.

Miller Bros.' No. 1 Allison & Burke, C NW, Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.

Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur. S.D. 6,120 ft.

Jones et al's No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.

Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W, Sec. 5, G. W. Hurley Sur. ..... S.D. 855 ft.

TOM GREEN COUNTY

Andrews' No. 1 Pugh, 250 ft. from N and 5,184 ft. from E, James Eldridge Sur. No. 73 ..... S.D. 453 ft.

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 735 ft.

Mintex Oil Co.'s No. 1 Campbell Est., 440 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. .. S.D. 1,994 ft.

Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur. ..... S.D. 220 ft.

Independent Operators' No. 1 Whitehead, SE SE, Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... S.D. 5,360 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 1 Sloan, 330 ft. from NW and NE, Sec. 24, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,255 ft.

Bradford & Bentley's No. 1 B. Carson, 1,650 ft. from the NE line and 990 ft. from the SE line of Sec. 26, H.&T.C. Sur., Blk. 5 ..... S.D.

Buck Sturm et al's No. 2 R. H. Gill, 2,310 ft. from SW line and 330 ft. from SE line, Sec. 25, Blk. B-29, P.S.L. Sur. ..... T.P. 2,473 ft.; S.D. 2,488 ft. for storage.

Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 34, H.&T.C. Sur. ..... S.D. 2,740 ft.

Eppenauer Drlg. Co.'s No. 1 Townsend-Moore, 990 ft. from SE and 330 ft. from SW Sec. 17, Blk. 34, H.&T.C. Sur. ..... Spudded and S.D.

H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... Drlg. 1,210 ft.

Gulf Prod. Co.'s No. 10 Hutchings, 330 ft. from N and W of 5,370 acres, Sec. 5, Blk. F, G.M.M.B.&A. Sur. .. Drlg. 1,070 ft.

Gulf Prod. Co.'s No. 21 O'Brien, 2,557 ft. from N, 330 ft. from E of Sec. 16, Blk. F ..... Rig.

Moran & Burkhart's No. 2 J. T. Sweatt et al, 3,810 ft. from SW, Sec. 1, J. Howe Sur. ..... S.D. 821 ft.

Moran & Miles' No. 1 Boogher, 3,603 feet from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 1,650 ft.

R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW Sec. 1, J. Howe Sur. ..... T.D. 715 ft.; fishing.

Plains Prod. Co. and Simms Oil Co.'s No. 1 Benton Land Co., 440 ft. from the SE and 440 ft. from SW lines of Sec. 26, W.&N.W.R.R. Sur., Blk. 1 ..... Spudding.

Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 32, Blk. A, G.M.M.B.&A. Sur. ..... S.D. 3,602 ft.

Richardson et al's No. 7 O'Brien, 1,900 ft. from N and 330 ft. from W Sec. 5, Blk. F ..... Rigging up.

Rixford et al's No. 1 Green, 330 ft. from NW and SW Sec. 4, Blk. 34, H.&T.C. Sur. ..... Rigging up.

Sudderth & Carey's No. 1 J. H. Boogher et al, 150 ft. from SW and SE lines of Lot 24, Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 290 ft.

Stanolind Oil & Gas Co.'s No. 1 Cannon, 3,300 ft. from SE and 1,649 ft. from NE, Sec. 29, Blk. B-29 ..... S.D. 2,206 ft.; running 6⅝-in. csg.

T. P. Coal & Oil Co.'s No. 2 James, 330 ft. from NW and NE Sec. 5, Blk. 34 ..... Location.

White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... S.D. 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor., Sec. 2, Blk. B-5 ..... S.D. 4,640 ft.

Sid Richardson's No. 1 S. M. Halley, 330 ft. from the S line and 1,650 ft. from the E line, Sec. 25, School Blk. B-12 ..... T.D. 2,810 ft.; running csg.

EAST AND EAST CENTRAL TEXAS WILDCATS

(Continued from Page 38)

DALLAS COUNTY

Long Creek Dev. Co.'s No. 1 T. J. Lupton, center of 160-ac. tract, 3½ miles N of Mesquite, J. Johnson Sur. ..... Rigging up.

Paris' No. 2 Wilkinson, 2,787 ft. from NW and 3,341 ft. from SW of John P. Anderson Sur. ..... T.D. 1,230 ft.; S.D.

Joe Wilson's No. 1 fee, 600 ft. from N line and 600 ft. from W line of 1,500-ac. tr., Jno. Scroggs Sur. .... S.D. 1,150 ft.

DELTA COUNTY

Worthington et al's No. 1 Pejernett, 776 ft. from S and 150 ft. from W in E. Chick Sur., 1½ miles W of Horton ..... S.D. 3,315 ft.

ELLIS COUNTY

Clark-Brooks' No. 1 C. W. Golliday, 300 ft. from S line and 300 ft. from E line of tract and survey, John Bones Sur. ..... T.D. 2,140 ft.

Community's No. 1 Reeves ..... Drlg. 300 ft.

E. M. Rogers' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur. .... S.D. 1,435 ft.

Worthen Pet. Co.'s No. 1 Cerf, 2½ miles NE of Ennis .. T.D. 2,264 ft.

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur. .. S.D. 1,000 ft.

GREGG COUNTY

Abernathy & Kirkpatrick's No. 1 R. M. Wood, center of Lot No. 3, R. H. Hokit Sur. ..... S.D. 3,570 ft.

P. J. Alco's No. 1 F. Thomas, 160 ft. from S line and 150 ft. from W line of 10-ac. lease, C. H. Alexander Sur. ..... Spudded.

Barnsdall Oil Co.'s No. 1 Grant Benson, 330 ft. from S and E lines of 50-ac. tr., W. P. Chisum Sur. ..... Location.

Barnsdall Oil Co.'s No. 1 Adams, 330 ft. S and E of NE cor. of Shell's Slaton lease, G. W. Hooper Sur. .. Location.

Beard et al's No. 1 J. J. Fuller, 330 ft. from S and W lines of 69.7-ac. tract, M. Alexander Sur. ..... Testing 3,703 ft.

Brown et al's No. 1 Florence, 150 ft. from N and W lines of 2.58-ac. tract, Mary Van Winkle Sur. ..... Testing 3,590 ft.

Will Brown's No. 1 E. Choice, 400 ft. due east of Collins' No. 1 H. T. Elder ..... Derrick.

M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Derrick.

Byrd-Frost Oil Co.'s No. 1 Alexander and Strong, 330 ft. from S and E lines of 26-ac. tract, M. Tennison Sur. ..... Rigging up.

E. L. Chapman's No. 1 J. Clayborn, 275 ft. S and 158 ft. W of NE cor. of 4-ac. lease, I. Baty Sur. ..... Rig up.

Danciger Oil & Ref. Co.'s No. 1 S. Ball, located on a 2-ac. tract, Mary Van Winkle Sur. ..... Drlg. 2,500 ft.

Degener & Co., Inc.'s No. 1 Savannah Belle, located on 2-ac. tract, Mary Van Winkle Sur. ..... Moving in rig.

Demotte et al's No. 1 T. L. Bray, center of Blk. No. 8, H. R. Hokit Sur. ..... Drlg. 1,200 ft.

Dodd and Markey's No. 1 J. F. Holt, 615 ft. E and 707 ft. N of SW cor. of 200-ac. tract, H. Edwards Sur. .. Derrick.

W. L. Duninger's No. 1 C. C. Stoen, 350 ft. from S and E lines of 59-ac. tract, J. Baty Sur. ..... Moving in.

East Texas Refining Co.'s No. 1 J. W. Fuller, 330 ft. from W line and 300 ft. from S line of 50-ac. lease, D. Sanches Sur. ..... Bldg. derrick.

Empire Gas & Fuel Oil Co.'s No. 1 V. L. Taylor, 330 ft. from N line and 352 ft. from W line of 40.85-ac. lease, M. Tennison Sur. ..... Drlg. 2,930 ft.

Faith Oil Co.'s No. 1 Walters, 246 ft. E of W line and 145 ft. N of S line and SW cor. of survey, B. W. Witcher Sur. ..... S.D. 3,600 ft.

Ralph Fenton's No. 1 J. H. Alexander, center of W 5 acres of N 10 acres of 50-ac. tract, D. Sanches Sur. ..... Drlg. 3,010 ft.

B. F. Findley's No. 1 Vine Lodge, center of 1-ac. lease and tract, J. W. Bradshaw Sur. ..... Derrick.

A. B. Gippert et al's No. 1 L. Bailey et al, center of 6⅝-ac. lease, James Norris Sur. ..... Derrick.

Glasscock Bros.' No. 1 E. Bade, 157 ft. from S line and 409 ft. from W line of lease, G. W. Hooper Sur. ..... Derrick.

Glasscock et al's No. 1 Duncan, 330 ft. from S and E lines of lease, G. F. Penn Sur. ..... Rig up.

Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.3-ac. tract, M. Dillard Sur. . Derrick.

Gulf Production Co.'s No. 1 A. King, 120 ft. E and 330 ft. N of SE cor. of church, John Moffit Sur. .... Location.

Gulf Production Co.'s No. 1 R. H. Still, north offset to Turnbow's No. 2 Elder, John Wilkerson Sur. .... T.D. 3,569 ft.

Gulf Production Co.'s No. 1 E. L. Walker, 310 ft. N and 370 ft. W of SE cor. of lease, John Tate Sur. .. Moving in.

Gulf Production Co.'s No. 1 Nichols, 330 ft. from N line and 344 ft. from W line of lease, D. Dainwood Sur. ..... Derrick.

Hastings et al's No. 1 Wallace, due SE offset to Victory Smith's No. 1 Knowles, M. Tennison Sur. ..... Drlg. 600 ft.

J. F. Heard's No. 1 fee, 200 ft. SW of Pace's No. 1 Elder, Mary Van Winkle Sur. ..... Derrick.

D. M. Hester's No. 1 Crews, 299 ft. W. and 166 ft. S of SE cor. of William W. Friars Sur. ..... Drlg. 3,250 ft.

D. L. Hoffman's No. 1 B. F. Phillips, 330 ft. from E line and center of N and S lines of 16.5-ac. tract, D. Ferguson Sur. ..... Drlg. 2,900 ft.

Humble Oil & Refining Co.'s No. 1 J. H. Sheppard, 330 ft. from S and W lines of lease, T. Allen Sur. ..... Drlg. 400 ft.

Jackson and Bradstreet's No. 1 M. Young, center 2-ac. tract, J. R. Crosby Sur. ..... Drlg. 1,900 ft.

K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. .... S.D. 700 ft.

Landes et al's No. 1 M. B. Hughey, Blk. No. 118, Kilgore Townsite, Mary Van Winkle Sur. ..... Drlg. 1,700 ft.

Lucy Petroleum Co.'s No. 1 B. C. Christian, 330 ft. from W line and center of N and S lines of 8-ac. lease, G. W. Hooper Sur. ..... Location.

McBride's No. 1 F. Elder, 205 ft. N and 320 ft. W of SE cor. of 26-ac. lease, John Wilkerson Sur. ..... Rigging up.

National Oil Co.'s No. 1 L. Martin, 330 ft. from N and W lines of 20-ac. lease, W. P. Chisum Sur. ..... Derrick.

Newman et al's No. 1 A. V. Bacle, 426 ft. S and 250 ft. W of NW cor. of Barnsdall's McGrede lease, G. W. Hooper Sur. ..... Location.

A. G. Oliphant's No. 1 W. P. Crews, 330 ft. from S and E lines of 10-ac. lease, J. W. Bradshaw Sur. .... Derrick.

J. D. Patty et al's No. 1 J. C. McCormick, 207 ft. SE at right angles to Gladewater-Tyler road and 540 ft. SW of Abernathy and Kirkpatrick's No. 1 Gregston, M. Dillard Sur. ..... T.D. 100 ft.

Tom C. Patten's No. 1 Geo. Walter, center of 1-ac. tract, and 396 ft. from W line of lease, Mary Van Winkle Sur. ..... Waiting on cmt. to set.

E. A. Payne et al's No. 1 R. M. Woods, 20 ft. from S line and 31 ft. from W line of 2.13-ac. lease, H. R. Holit Sur. ..... Derrick.

Peterson and Merritt's No. 1 Hem, center of 1-ac. tract of SW cor. of Meridian's Lee lease, L. J. Rigsby Sur. ..... Drlg. 1,000 ft.

Pilot Oil Co.'s No. 1 H. Smith, center of 3,67-ac. lease, William Robinson Sur. ..... Rig up.

Pilot Oil Co.'s No. 1 G. S. Maddox, center of S 8-ac. of W 15 acres of 55-ac. tract, D. Sanches Sur. ..... Testing 3,650 ft.

J. C. Reese et al's No. 1 Mrs. B. Mosley, 135 ft. from NE line and 105 ft. from SE line of Blk. No. 2, H. R. Holit Sur. ..... Drlg. 3,012 ft.

Reeves et al's No. 1 W. L. Heatland, center of five-eighths-acre tract, midway from Lampton Church and Sarson's No. 1 Hall, D. Sanches Sur. ..... Derrick.

C. B. Robinson et al's No. 1 L. Rodden, 330 ft. W and 232 ft. S of NW cor. of The Texas Company's Woods lease, M. Dillard Sur. ..... Rig up.

Roeser & Pendleton's No. 1 E. Nicholson, 330 ft. from S line and 150 ft. from W line of lease, Marshall Mann Sur. ..... Waiting on cmt. to set 3,652 ft.

Ross et al's No. 1, located on Findley & Thomas 50-ac. tract, 150 ft. from S line and 6.66-ac. lease, C. H. Alexander Sur. ..... Derrick.

Frank Russell's No. 1 M. Dickson, Blk. No. 184, Kilgore Townsite, Mary Van Winkle Sur. ..... Rig up.

Shell Pet. Corp.'s No. 1 S. C. Fishborn, 330 ft. from N and E lines of 100-ac. lease, F. W. Johnson Sur. ..... Location.

Shell Petroleum Corp.'s No. 1 M. J. Register, 370 ft. from N line and center of E and W lines of 50-ac. tract, D. Dainwood Sur. ..... Spudding.

Silver Star Gas Co.'s No. 1 Knight and Tabor, center of one-half-acre tract, L. B. Outlaw Sur. ..... Derrick.

E. L. Smith's No. 1 E. E. Anderson, 330 ft. from S line and center of E and W lines of 19-ac. tract, G. W. Hooper Sur. ..... Drlg. 900 ft.

V. C. Smith's No. 1 M. B. Hughey, center of Blk. No. 123, Mary Van Winkle Sur. ..... Waiting on standard rig.

Victor C. Smith's No. 1 Knowles, center of Blk. 134, Mary Van Winkle Sur. ..... Derrick.

Stanolind Oil & Gas Co. and Simms Oil Co.'s No. 1 Akin, 330 ft. from S and E lines of lease, W. H. Castleberry Sur. ..... Waiting on cmt. to set 118 ft.

Stroube and Stroube's No. 1 M. B. Hughey, center of 5-ac. lease, L. B. Outlaw Sur. ..... Rig up.

Sun Oil Co.'s No. 1 G. Reeves, 1,073 ft. from S line and 338 ft. from W line of lease, James Hay Sur. ..... Drlg. 1,179 ft.

Thompson's No. 1 Cole, E offset to Petroleum Finance's No. 2 Lacy, M. T. Cole Sur. ..... Spudded.

M. E. Trapp et al's No. 1 A. N. Neeley, center of 1.75-ac. tract out of Lion Oil & Ref. Co.'s J. R. Williams lease, P. McAnnally Sur. ..... T.D. 3,720 ft.; off 45 deg.; will skid rig 10 ft. E.

Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Rigging up.

Waggoner and McCownell's No. 1 A. J. Green, 25 ft. from NW cor. of Blk. No. 81, M. Dillard Sur. ..... Derrick.

Welch and Sanders' No. 1 D. Barnett, 850 ft. from N line and 1,050 ft. from E line of survey, T. Johnson Sur. ..... Waiting on cmt. to set 3,703 ft.

Westheimer and Doby's No. 1 J. T. Florence, 606.3 ft. from S line and 123 ft. from W line and 474 ft. from E line of lease, Mary Van Winkle Sur. ..... Derrick.

Wiseman et al's No. 1 C. Jones, center of 45-ac. tract, G. W. Hooper Sur. ..... Derrick.

H. E. Wrenn's No. 1 A. A. King, 150 ft. from S and E lines of 79-ac. lease, W. P. Chisum Sur. ..... Location.

HILL COUNTY

Sherman-Houseman's No. 1 J. F. Griffith, in Samuel Waddell Sur. ..... Fishing 3,256 ft.

HOPKINS COUNTY

E. L. Chapman's No. 1 J. D. Jumper, 175 ft. from N line, 285 ft. from W line of lease, Jas. Webb Sur. .. S.D. 230 ft.

Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract in the John Polk Sur. ..... S.D. 540 ft.

HOUSTON COUNTY

Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramond LaGarsa Sur. ..... S.D. 2,000 ft.

C. T. McManus' No. 1 Harron, 300 ft. out of NE cor. of 327-ac. tract, J. P. Procella Sur. ..... Spudded and S.D. 37 ft.

HUNT COUNTY

Branson et al's No. 1 Gray ..... Location.

Russell et al's No. 1 Brooks and Quattlebaum ..... S.D. 1,455 ft.

KAUFMAN COUNTY

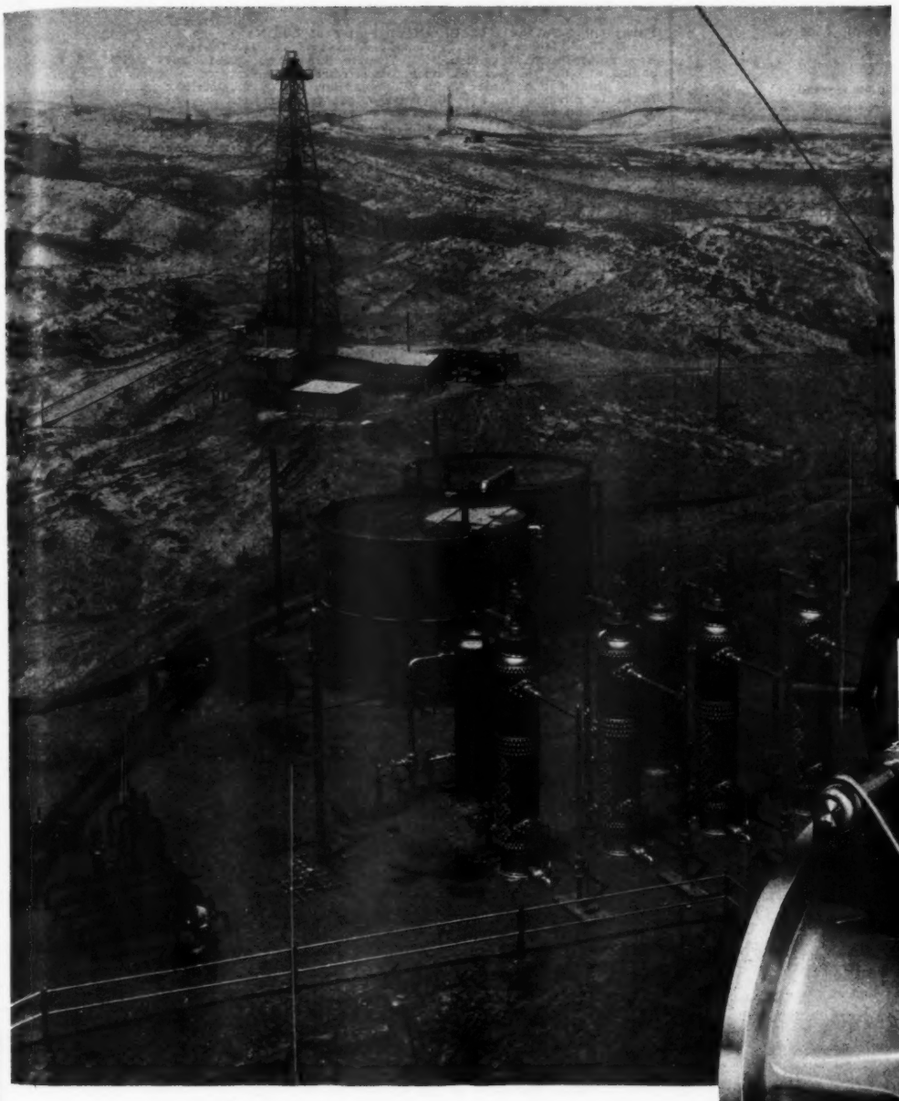
Standy Darnell et al's No. 1 Sally Pannill ..... T.D. 1,500 ft.

LAMAR COUNTY

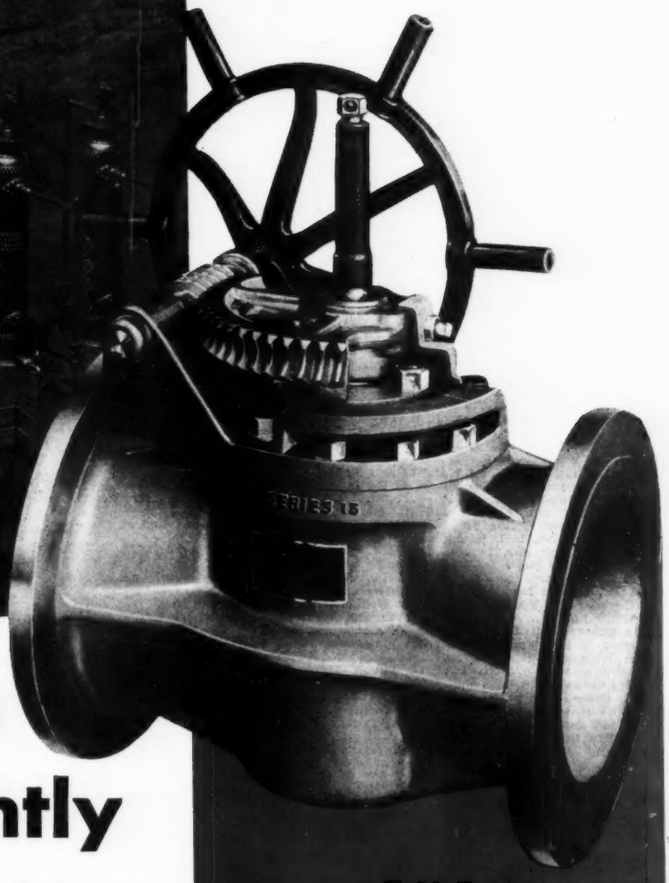
G. W. Davy et al's No. 1 McGustion, 450 ft. from S line, 450 ft. from W. line of farm and survey, Galet Wood Sur. ..... S.D. 2,880 ft.

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Derrick.

Doyle and Jondeau's No. 1 Horn, 226 ft. from S line and 608 ft. from E line of lease, R. P. Mayor Sur. ..... Drlg. 1,140 ft.



Gas Separators in a Kettleman Hills plant equipped with Nordstrom "Venturi" Valves.



Nordstrom Valves hold the line tightly

Retaining a tight seal regardless of pressure, and allowing quick closing and opening, Nordstrom Valves are desirable for service on gas separators. The enlarged illustration shows a Nordstrom "Venturi" Valve, worm-gear operated. These valves are manufactured in sizes up to 30", each embodying patented "Sealdport" lubrication.

Catalog No. 8 gives full information. Ask for a copy.

THE PERFECT APPLICATION OF A PRINCIPLE

MERCO NORDSTROM VALVE COMPANY

SUBSIDIARY OF THE MERRILL COMPANY . . . ENGINEERS

Boston - 250 Stuart St. Buffalo - 1 W. Genesee St. Chicago - 176 W. Adams St. Cincinnati - 606 Ch. of Com. Bldg. Houston - Petroleum Bldg. Los Angeles - 1709 W. 8th St. New Orleans - Masonic Bldg. New York - 11 W. 42nd St. Pittsburgh - Clark Bldg. St. Louis - 317 N. Eleventh St. San Francisco - 543 Sansome St.

Agencies:

Denver - Republic Supply Company, 232 Continental Oil Bldg. Honolulu - W. A. Ramsay Co., Ltd., Fort & Queen Streets Philadelphia - Brown, Wilson & Company, 1600 Arch St. Saginaw - Arthur C. Herbert, 112 Durand St. Salt Lake City - National Equipment Co., 101 West 2nd South St. Tulsa - H. V. Emery & Company, 216 E. Brady Street

Factory - Oakland, Calif.

Canada - Peacock Bros., Ltd., Montreal, Toronto, Winnipeg, Vancouver. (Also Sydney, N. S.) Buenos Aires, Argentine - General Electric, Soc. Anon., Victoria 618 Esq. Peru. England - Audley Engineering Co., Ltd., Newport, Shropshire.

Optometrist Oil Club's No. 1 J. M. McFadden, 450 ft. from S and W lines of McFadden E 25-ac. tract, J. Deck Sur. ..... Temp. abnd. 2,506 ft.

LEON COUNTY

Salzer Drlg. Co.'s No. 1 Dr. J. M. Blair, 1,010 ft. from N line, 1,986 ft. from W line, Sec. 19, Blk. E, Lucia Hibbard Sur. ..... Derrick on ground.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tract, A. S. Young heirs Sur. .. Derrick.

NACOGDOCHES COUNTY

Adams et al's No. 1 Fuller Brothers, located in a 269-ac. tract, Jose Flores Sur. ..... Location.
Gainer et al's No. 1 Nice Well, 18 miles SE of Nacogdoches, 600 ft. from S and 150 ft. from W of Wells tract in A. Cherino Sur. ..... S.D. 3,430 ft.
Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..... S.D. 3,920 ft.
Scully & Harwell's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tract, 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..... S.D. 3,808 ft.
Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tract in the M. G. Herrera Sur. ..... S.D. 265 ft.
Creighton Drlg. Co.'s No. 1 J. N. Stewart, center of 79-ac. tract in the Jose Ignacio Y. Barbo Sur. ..... S.D. 3,226 ft.

POLK COUNTY

Humble Oil & Refining Co.'s No. 2-A West Texas Lumber Co., 1,902 ft. S and 70 deg. W along property line from N cor. of survey, thence 100 ft. SW of right of way, M. Chavence Sur. ..... Drlg. 834 ft.
Sunshine Oil Co.'s No. 1 Brawley, 150 ft. from S line and 250 ft. from E line of W 100 acres of lease, F. Johnson Sur. ..... Derrick.

RAINS COUNTY

C. H. Bayliss' No. 1 Ownby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... S.D. 4,036 ft.
Greer et al's No. 1 Roy Harper, 150 ft. from S line and E line of tract, 4 miles N of Ginger, David Rose Sur. ..... Derrick.

RED RIVER COUNTY

Gibbs et al's No. 1 Mace (old well being drilled deeper), 1,200 varas from S line, 1,500 varas from E line of survey, Wm. Cullam Sur. ..... S.D. 3,520 ft.
Hoffman and Henson's No. 1 H. H. Lennox, 2,790 ft. W. and 300 ft. S of most easterly NE cor. of survey, J. E. Edmondson Sur. ..... S.D. 60 ft.
Harris & Joiner's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tract, Wm. Humphreys Sur. ..... Abandoned.
Concord Oil Co.'s No. 1 J. R. Delilahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... S.D. 2,530 ft.
L. G. Priest's No. 1 J. M. Stiles, 900 varas S and 500 varas E most northerly NE cor. of Jones Bankston Sur. in the Levi Dean Sur. ..... S.D. 1,770 ft.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.

RUSK COUNTY

Brooks Petroleum Co.'s No. 1 J. M. Mayfield, 330 ft. from N line and 150 ft. from W line of 22-ac. lease, D. Clark Sur. ..... Derrick.
Butler and Calhoun's No. 1 C. C. Lowe, 325 ft. from N line and 200 ft. from E line of 85-ac. lease, W. G. Tutt Sur. ..... Derrick.
Byrd-Frost's No. 1 Buckner, J. E. Peyton Sur. ..... S.D. 2,981 ft.
Cordova Union Oil & Gas Co.'s No. 1 C. O. Christian, 330 ft. from S and E lines of 40-ac. lease, W. A. Elliott Sur. ..... Derrick.
Everts Drilling Co.'s No. 1 Knights and Tabor, 2,700 ft. from N line and 75 ft. from E line of survey, Henry Hobson Sur. ..... Set csg.; T.D. 3,642 ft.
C. A. Everts' No. 1 Cole, 210 ft. from N line and 330 ft. from E line of 50-ac. lease, D. Shaw Sur. .. Spudded and shut down.
E. P. Florey's No. 1 E. B. Alford, center of 3-ac. lease, Isaac Parker Sur. ..... Derrick.
E. E. Fogelson's No. 1 D. Wadley, center of 15-ac. tract, D. Clark Sur. ..... Location.
P. T. Fullwood's No. 1 W. N. Brightwell, 275 ft. E of Horse Shoe Syndicate's No. 1 Brightwell, R. E. Winn Sur. ..... Drlg. 2,900 ft.
Great Eastern Oil Co.'s No. 1 C. O. Christian, 150 ft. from N line and 330 ft. from E line of lease, J. S. Whiteman Sur. ..... Derrick.
Gulf Production Co.'s No. 1 W. O. Alford, 330 ft. from E line and 330 ft. from SW line of 140-ac. tract, M. Hussner Sur. ..... Drlg. 2,907 ft.
Hale and Hatchfield's No. 1 C. J. Goforth, 625 ft. from S line and 450 ft. from W line of 13.4-ac. tract, M. J. Pru Sur. ..... Rig up and S.D.
Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.
Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... Coring 3,300 ft.
Heiden-Rodgerson et al's No. 1 Barton and Birdwell, N offset to Reisinger et al's No. 1 Barton, W. G. Tutt Sur. ..... Spudded.
H. E. Hiden's No. 1 Varney, 100 ft. from N line, 125 ft. from E line of road, W. G. Tutt Sur. ..... Derrick.
Holland et al's No. 1 S. E. Brox, 330 ft. from N line and 250 ft. from W line of 30-ac. lease, Thomas Grey Sur. ..... Derrick.
Howell's No. 1 Irion and Motley, 200 ft. from N line, 1,270 ft. from W line of survey, J. Lindley Sur. ..... S.D. 2,860 ft.
Humble Oil & Refining Co.'s No. 1 T. Barton, 150 ft. S and 330 ft. E from NW cor. of 50.5-ac. lease, Thomas Grace Sur. ..... T.D. 3,740 ft.
Humble Oil & Refining Co.'s No. 1 W. D. Peterson, 330 ft. from N and W lines of 100-ac. lease and tract, J. Lewis Sur. ..... Drlg. 2,130 ft.
T. F. Hunter's No. 1 J. Johnson, 330 ft. from E line and 171 ft. from N line of 13-ac. lease, H. B. Dance Sur. ..... Drlg. 1,900 ft.
LaSalle-Davenport and Bledsoe's No. 1 Church, 175 ft. S and 175 ft. E of SE cor. of Sun-Schuler joint lease, J. B. DeCadena Sur. ..... Moving in materia .
Moss and Urschel's No. 1 H. L. Griffin, 200 ft. from N line and 150 ft. from W line of 20-ac. lease, Juan Ximenes Sur. ..... Preparing to swab; T.D. 3,697 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Jim Lunsford, 460 ft. from S line and 330 ft. from W line of 66.6-ac. lease, J. B. DeCadena Sur. ..... Spudded.
Mid-Kansas Oil & Gas Co.'s No. 1 George W. Moore, 425 ft. from N line and 330 ft. from S line and 1,105 ft. from E line of 85-ac. tract, W. J. Roan Sur. ..... Derrick.
Mid-Kansas Oil & Gas Co.'s No. 1 H. C. Burton, 1,375 ft. from S line and 330 ft. from E line of 59.5-ac. lease, W. D. Porter Sur. ..... Drlg. 1,651 ft.
Mrs. J. A. McIntyre's No. 1 G. A. Dickerson, 330 ft. from N and W lines of 55-ac. lease, T. J. Martin Sur. ..... Rig up.
Geo. L. Pace's No. 1 E. B. Alford, center of 5-ac. lease, T. J. Moore Sur. ..... Drlg. 2,805 ft.
Rajo Oil Corp.'s No. 1 L&G.N.R.R., approximately halfway between Gulf's Nos. 2 and 5-A Laird, I. Ruddle Sur. ..... Rig up.
Pace Petroleum Co.'s No. 1 Wells, W offset to East Texas, W. P. Chisum Sur. ..... Derrick.
Pansy Oil Co.'s No. 1 E. B. Alford, center of Lot No. 35, T. J. Moore Sur. ..... Derrick.
Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... S.D. 3,077 ft.
Sabins et al's No. 1 J. R. Irion, 330 ft. from S and E line of 2-ac. tract, John Womack Sur. ..... Derrick.
R. E. L. Silvey's No. 1 P. G. Warren, 155 ft. from S line and 96 ft. from E line of 44-ac. tract, John Womack Sur. ..... Derrick.
Jay Simmons' No. 1 D. C. Joyner, 2,050 ft. from S line and 300 ft. from W line of 74.11-ac. tract, F. Cordova Sur. ..... Derrick.
Sinclair Oil & Gas Co.'s No. 1 J. W. Ashby, 300 ft. from S and W lines of 54.77-ac. lease, William Clark Sur. ..... Bldg. derrick.
Skelly et al's No. 1 L&G.N., 1,230 ft. from E line and 660 ft. from S line of survey, J. S. Carrithers Sur. .. Drlg. 2,900 ft.
Stanolind Oil & Gas Co. and Pure Oil Co.'s No. 1 W. H. Siler, 330 ft. from N and W lines of 231.8-ac. tract, T. M. White Sur. ..... Drlg. 2,407 ft.
Weaver-Crim Corp.'s No. 1 M. E. Peterson, 330 ft. from S line and center of E and W line of lease, W. P. Chisum Sur. ..... Rigging up.
Weaver-Crim's No. 1 F. Bean, 175 ft. from NW line and 212 ft. from S line of 16-ac. lease, Mary Cogswell Sur. ..... Derrick.
G. C. Wood's No. 1 J. B. Irwin, 154 ft. from N line and 108 ft. from W line of 35.41-ac. lease, J. Lindley Sur. ..... Drlg. 2,845 ft.
Woodruff et al's No. 1 E. B. Alford, center of Lot No. 58 on a 9-ac. lease, T. J. Moore Sur. ..... Waiting on cmt. to set; T.D. 175 ft.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..... Rigging up.
Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 1,765 ft.

SAN AUGUSTINE COUNTY

A. H. Jones and Tennant's No. 1 A. P. Davis ..... T.D. 2,472 ft.
Smith and Baker's No. 1 Pickering Lbr. Co., 6 miles N of San Augustine, E. Quick Sur. ..... Derrick.

SMITH COUNTY

Acme Oil Co.'s No. 1 Horton, 330 ft. from N and W lines of tract, Mar Sewell Sur. ..... S.D. 2,075 ft.
Hasmussen et al's No. 1 S. S. Cooke, 723 ft. E and 554 ft. S of SW cor. of Mayfield 99-ac. tract, Juan Vargus Sur. ..... Rigging up.
Hamp Florence's No. 1 S. S. Cooke, 150 ft. from S and E lines of 20-ac. lease, Juan Vargus Sur. ..... Rig up.
Iowan-Payne Oil Co.'s No. 1 J. B. Wilson, 330 ft. from S and E line of 25-ac. lease, Juan Vargus Sur. ..... Rig up.
J. E. Lucas' No. 1 L. S. Sartin, 214 ft. from S line and 330 ft. from E line of 10-ac. lease and 76-ac. tract, James Jordan Sur. ..... Derrick.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... S.D. 3,724 ft.
Joiner et al's No. 1 Clayton Brown, 1,300 ft. from E and 400 ft. from most northerly S line of V. Evans Sur. . S.D. 2,250 ft.

UPSHUR COUNTY

L. G. Bradstreet et al's No. 1 O. M. Victory, 330 ft. from N and E lines of 10-ac. lease, E. A. J. Evans Sur. ..... Location.
Clarston et al's No. 1 Eva O'Byrne, 250 ft. from N line and 200 ft. from E line of E 17 acres of 32.17-ac. tract, S. Harwell Sur. ..... Drlg. 2,300 ft.
E. & D. Oil Co.'s No. 1 Thomas Wells, 443 ft. W and 250 ft. S of SW cor. of Humble's C. T. Shelton lease, G. W. Hooper Sur. ..... Waiting on cmt. to set 118 ft.
Eslick et al's No. 1 H. F. Whitehurst, 330 ft. out of SW cor. of 5.80 acres of W 40 acres of Whitehurst 100-ac. tract ..... Drlg. 2,860 ft.
Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 3 miles E and 1½ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. .... Derrick.
J. C. McFarland et al's No. 1 Willie Starr, center of S 40 acres of Starr 96-ac. tract, Charles Cooper Sur. ..... Spudding.
Saturn Oil Co.'s No. 1 W. F. Smith, 330 ft. from E line and center of N and S lines of S 25 acres of W 50 acres of 100-ac. tract, J. Pineda Sur. ..... Testing 3,700 ft.
L. E. Trout et al's No. 1 O. M. Victory, 330 ft. from S and E lines of 40-ac. lease, E. A. J. Evans Sur. ... Derrick.
Wadley and Evans' No. 1 Oliver, 330 ft. out of NE cor. of the W half of survey on a 160-ac. tract, S. Saunders Sur. ..... Derrick.
Webster's No. 1 R. H. McClelland, 1,956 ft. E and 385 ft. S of NW cor. of 751-ac. tract, M. P. Del Torres Sur. ..... Bldg. derrick.
Wolf's No. 1 Cook, center of 115-ac. tract in Jacob Walker Sur., 5 miles W of Rosewood ..... S.D. 1,100 ft.
Wood and Nelson's No. 1 H. S. Coslett, 500 ft. N and W of SE cor. of Coslett 2.48-ac. tract, B. F. Howard Sur. ..... Drlg. 3,740 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tract, 3½ miles S of Canton, M. J. DeCadena Sur. ..... S.D. 2,104 ft.
Humble Oil & Refining Co.'s No. 1 J. F. McPherson, 308 ft. E of W line and 200 ft. N of S line of lease, William Daniel Sur. ..... Rigging up.
Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... S.D. 2,300 ft.
Pure Oil Co.'s No. 3 J. H. Leonard, 1,230 ft. from N line and 200 ft. from W of E line of lease, Mund Gross Sur. ..... Drlg. 550 ft.
Pure Oil Co.'s No. 9 A. R. Tunnell, 644 ft. N of S line and 350 ft. W of E line of lease, John Walling Sur. ..... Waiting on tools.
Pure Oil Co.'s No. 10 F. B. Smith, 300 ft. E of well No. 9 and 150 ft. N of S line, John Walling Sur. .... Drlg. 1,656 ft.
Pure Oil Co.'s No. 2 B. W. Russell, 150 ft. W and 150 ft. S of NE cor. of 81.5-ac. tract, David Rose Sur. ..... Cmt. setting 303 ft.
Priest et al's No. 1 B. G. Beckham, 150 ft. from S line, 33 ft. from W line of 100-ac. tract, A. S. Johnson Sur.. Drlg. 5,731 ft.
Pure Oil Co.'s No. 2 Mrs. C. White, 250 ft. E of W line, 250 ft. S of N line, John Walling Sur. ..... Derrick.
Pure Oil Co.'s No. 3, 225 ft. S of N line and 225 ft. W of E line, J. Stephenson Sur. ..... Drlg. 402 ft.
Pure Oil Co.'s No. 2 A. R. Humphreys, 200 ft. S of N line and 225 ft. E of W line of lease, A. McPhail Sur. ..... Preparing to run tubing 2,989 ft
Pure Oil Co.'s No. 7 N. E. Clark, 600 ft. S of N line and 225 ft. E of W line of lease in J. Prado Sur. .... Location.
Thomasson et al's No. 1 Mrs. W. M. Corley, 289 ft. from S line and 164 ft. from W line of 63-ac. tract, F. Montgomery Sur., 7 miles S of Canton ..... Set 10-in. csg. 131 ft.
Thomasson, Inc.'s No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tract in the F. Montgomery Sur. ..... S.D. 3,200 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .... S.D. 2,850 ft.

WOOD COUNTY

Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur..... S. D. 1,550 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tract and 2½ miles S of Kantes in Sarah McDonald Sur. ..... Moving in rig.

Personal Paragraphs About Oil Men

J. Lloyd Dittman, Oklahoma City, Okla., of the Wall Rope Works, is making a trip through Texas on business.

* * *

C. J. Halloran, district manager of the Continental Supply Company, was in St. Louis, Mo., last week, at the home office.

* * *

G. L. Tate, of the treasury department, Magnolia Petroleum Company, Dallas, Tex., is in New York City on company business.

* * *

George Gregson has succeeded P. Graham in charge of the operations of the Wainwright Gas Company, at Wainwright, Alberta.

* * *

Willis Storm, geologist, who is moving from Dallas to San Antonio, Tex., was given a farewell dinner by his fellow geologists in Dallas.

* * *

R. R. Hawkins, petroleum engineer, The Texas Company, Tulsa, has been confined to his home for a few days with a dislocated rib. He expects to be back soon.

* * *

R. C. Grinnell, of the Fluid Packed Pump Company—Mid-Continent, Oklahoma City, Okla., left last week on a business trip to California. He made the trip by plane. He will return about the last of March.

* * *

Dr. Hal P. Bybee, of the Board for Lease of University Lands, San Angelo, Tex., addressed the Fort Worth Geological Society at Texas Christian University, March 5, on "Deep Production in the Big Lake Oil Field."

* * *

Cliff Wright, of the petroleum engineering department of the Indian Territory Illuminating Oil Company, in the Oklahoma City district, is spending several weeks in California studying deep drilling and production methods.

* * *

Ed W. Bateman, discoverer of the Kilgore area, northern Rusk County, East Texas, has returned from a trip to Mexico where he has been looking over some business propositions. Mr. Bateman spends most of his time on his ranch near Ranger in Eastland County.

* * *

E. B. Dilley, chief scout for the Atlantic Oil Producing Company in West Texas, with headquarters in San Angelo for the past 6½ years, has been transferred to East Texas. Mr. Dilley was one of the organizers of the East Texas Oil Scouts Association, and has also served as secretary-treasurer of the National Oil Scouts Association.

* * *

J. L. Risinger of Beaumont, Tex., has been appointed safety and fire prevention director of the Magnolia Petroleum Company and moved his offices to Dallas March 1. He has been safety director of the company's refinery at Beaumont, and editor of the Magpetco, Magnolia Petroleum Company publication, which is published at Beaumont.

* * *

H. C. Taylor, of the treasury department, Magnolia Petroleum Company, Dallas, Tex., is laid up in the Baylor Hospital suffering from severe injury sustained when two passing automobiles crashed into his parked car in front of his home. Mr. Taylor was sitting in his car when two approaching automobiles collided with each other then careened into his car injuring him and smashing his car.

* * *

Dean E. Winchester, consulting geologist, has returned to his Denver, Colo., offices after spending six weeks in New Mexico in connection with his work of preparing a report on the oil and natural gas resources of New Mexico in conjunction with the State Bureau of Mines and Mineral Resources. A preliminary report on the southeastern New Mexico area, prepared by Mr. Winchester, was issued by the State School of Mines several months ago. The complete report will be published this year.

Paul McGivern, of the B. & A. Specialty Company, Tulsa, made a trip through several of the oil fields of the State this week.

* * *

M. J. Trees, vice president and general manager of the Chicago Bridge & Iron Works, Chicago, is on a business trip through the South.

* * *

John W. (Jack) Steele, formerly in charge of the exploration work of the Sinclair interests in Portuguese West Africa, is again in the United States Geological Survey, with headquarters at Roswell, N. Mex.

* * *

A. W. Peake, vice president of the Standard Oil Company of Indiana, is in Colorado conferring with officials of the Midwest Refining Company. He was chief engineer for the Midwest before going with the parent company.

Men of the Industry

John M. Courtney

Although he missed many days from school, helping his father on a farm in Pennsylvania, John M. Courtney finished the eighth grade in 1896 at the age of 14. His father urged him to get more schooling, but the boy was impatient to be making money and he set out for the oil fields of Mannington, W. Va. Two days after reaching Mannington young John went to work for the South Penn Oil Company as a roustabout at $60 a month. Eighteen months later he joined a casing pulling crew and got a raise of $5 a month. Another year and he was pushing a rod and tubing gang. He saved out of his wages so that when opportunity came to work as an apprentice tool-dresser he was able to meet the conditions imposed, namely to pay his own board and forego pay envelopes during the 70 days consumed in drilling the hole. After that the young man was a regular tool-dresser at $4 a day.

Six years of tool-dressing followed and then to use Mr. Courtney's own words, he became "a big hole driller with 10-inch top boots." Two years later the company wanted a few experienced men to go to Rumania as boss drillers and he was one of the men picked. Conditions growing out of the World War caused him to leave Rumania in 1915, and in 1917 he entered the service of the Magnolia Petroleum Company as a tool pusher. In 1921 the company sent him to El Dorado, Ark., as superintendent of drilling and production, which position he still holds. Mr. Courtney plays golf and he likes fishing and hunting.

John H. Moran, of the Fluid Packed Pump Company, Oklahoma City, Okla., called on buyers in Tulsa last week.

* * *

C. B. Grant, Muskogee, Okla., president of the Resistcor Engineering Corporation, was in Tulsa last week conferring with local officials.

* * *

Dwight A. Moore of the Wilshire Oil Company presided as special chairman at the monthly meeting of the Petroleum Accountants Society held in Los Angeles.

* * *

F. L. Aurin, vice president, director and chief geologist of the Southland Royalty Company, Ponca City, Okla., has just completed a business trip to Fort Worth, Tex.

* * *

J. A. Bermingham, vice president in charge of production for The Texas Company of California, attended a company conference in Houston, Tex., during the past week.

* * *

F. W. C. Bailey, Mid-Continent oil field representative of the Eagle-Picher Lead Company, with headquarters in Tulsa, left last week for Memphis, Tenn., on a business trip.

* * *

H. D. Crawford, of the sales department of the Parkersburg Rig & Reel Company, who has been on a trip through the Southwest, stopped in Tulsa en route to his home in Parkersburg, W. Va.

* * *

Garth L. Young, chief engineer of the Signal Oil & Gas Company, addressed a recent meeting of the Los Angeles Petroleum Accountants Society on "The Utilization of Natural Gas in the Oil Industry."

* * *

Fred Shaver recently resigned from the Shell Oil Company of California to become field superintendent of the Bolsa Chica Oil Company, in which connection he will maintain offices in Los Angeles.

* * *

Charles S. Glicksman, who majored in chemistry and physics at the University of North Carolina, has joined the laboratory staff of the Glyco Products Company, Inc., Bush Terminal, Brooklyn, N. Y.

* * *

Vernon F. Taylor of Indiana, Pa., recently arrived in California where he has been wintering for the past several years. Mr. Taylor will probably remain in Los Angeles for several weeks before returning home.

* * *

Talbot Wildman, president of the Wildman Petroleum Company, Fort Worth, Tex., and Miss Evelyn Lansdale of San Mateo, Calif., were married in St. Matthew's Episcopal Church at the latter place on March 5.

* * *

Ray Ingram of the Union Oil Company of California was recently transferred from San Francisco to the company's Los Angeles office where he is engaged in special work under the direction of J. B. Arthur, manager of fuel oil sales.

* * *

J. W. Grant, pioneer operator of West Texas, and one time holder of more than 1,000,000 acres of leases in the Permian Basin, died on March 1 in Pittsburgh, Pa. Iowa City, Iowa, has been the family home, where his wife and daughter reside.

* * *

E. Russell Lloyd, geologist, formerly with the federal government, has moved to Midland, Tex., to take charge of the Superior Oil Company of California's new offices in that district. E. Hazen Wood, Dallas, will be assistant to Mr. Lloyd at Midland.

* * *

J. G. Hanks, general field superintendent of the Ohio Producing & Refining Company, spent several days in Mount Pleasant, Mich., recently, conferring with O. K. Wheeler, local representative. Charles Rigler, another official, also recently visited the Mount Pleasant Field.

Natural Gas Industry Developments

MONTANA INJUNCTION HOLDS PENDING TRIAL

WASHINGTON, D. C., Mar. 7.—The interlocutory decree enjoining the enforcement of an order of the Public Service Commission of Montana which refused permission to a natural gas distributing company to charge its patrons a rate lower than the specific rate fixed by the commission was affirmed, without opinion, by the Supreme Court of the United States.

The high tribunal made its decision, in the case of Public Service Commission of Montana and others vs. Great Northern Utilities Co., without prejudice, however, to the consideration and determination of the case by the District Court for the District of Montana at a final hearing. The interlocutory injunction from which the commission had appealed was entered by the lower court before evidence in the case was taken.

The case involved the power, under Montana statutes, of the state commission to fix a specific utility rate, instead of merely prescribing maximum reasonable rates, and the right of the utility to charge consumers of gas less than the rate fixed in order allegedly to continue in competition with another utility which has entered the field.

Under the decision of the Supreme Court, the lower court may consider and determine all questions of all facts in the case, "including the question of the reasonableness, in the circumstances disclosed, of the order which is the subject of the suit."

REEVES W. BRINK DEAD

Reeves W. Brink, aged 60 years, secretary and treasurer of the East Ohio Gas Co., of Cleveland, died at the family home, 2057 East One Hundredth Street, Cleveland, on February 25.

The deceased was born in Middletown, N. Y., on August 12, 1871, and came to the oil country at an early age. On November 10, 1890, he became affiliated with the Oil City Fuel Supply Co. and held various positions with the company. In 1898 he became associated with the East Ohio Gas Co. and the Hope Natural Gas Co. During the period 1915-1918 he was general auditor for the Standard Oil Co. of New Jersey.

In 1918 he became treasurer of the East Ohio Gas Co. and several year later was named secretary-treasurer, a position he held at the time of his death. For the past two years he had been in ill health and had not taken an active part in the affairs of the company.

SAN DIEGO GAS

LOS ANGELES, Calif., Mar. 5.—The San Diego Consolidated Gas & Electric Co. has been given the option by the State Railroad Commission to elect whether it will bring natural gas into the territory it serves. The commission has announced the issuance of an order establishing interim rates to become effective March 1, pending an investigation by the commission. The effect of the order, according to the commission, is to set up two schedules of interim rates, one based on the use of manufactured gas, the other on the use of natural gas, the company being given the option to choose between them.

NEWTON, KANS., SUIT

NEWTON, Kans., Mar. 7.—The action to nullify the Newton Gas Co.'s 20-year franchise in Newton, voted January 12, will not come up until the May term of district court, county officials said.

REMARKABLE EXPANSION SHOWN IN NATURAL GAS CONSUMERS

The number of customers served by the gas industry increased by 40 per cent between January 1, 1921, and January 1, 1931, from 11,452,000 to 16,009,000 according to a consumer survey recently completed by the statistical department of the American Gas Association. Manufactured gas customers increased from 8,837,000 to 10,471,000, a gain of 19 per cent. Natural gas customers increased from 2,615,000 to 5,524,000, a gain of 111 per cent. The rapid increase in the number of natural gas customers has resulted largely from the construction of numerous pipe lines.

Ten years ago natural gas was distributed in 19 states (and insignificant quantities were distributed in five additional states). Now natural gas is consumed in 34 states. At the present time natural gas only is distributed in Kansas, New Mexico, Louisiana, Oklahoma and Texas, and over 90 per cent of the gas customers in West Virginia, Kentucky, Mississippi, Arkansas, Colorado, Montana, Utah, Wyoming and California are being served with natural gas.

While the natural gas industry has expanded by leaps and bounds, the manufactured gas industry has maintained a steady but less phenomenal rate of growth. As time goes on, the division between the manufactured and natural gas branches of the gas industry is rapidly disappearing. Many large communities formerly served with manufactured gas are now being served with natural gas or a mixture of the two gases.

In Texas, the gas industry has made remarkable strides in the past few years due to the discovery of prolific natural gas resources and the rapid construction of pipe line networks radiating from these fields. According to a report of the Railroad Commission of Texas there were 247 communities in Texas supplied with gas on January 1, 1928. According to the American Gas Association survey there were 652 communities supplied with gas on January 1, 1931. This indicates that gas service was established in over 400 communities in Texas in the three-year period.

Three years ago only 20 communities in the State of Nebraska were supplied with gas and all were served with manufactured gas. Now there are 115 communities in this State enjoying the benefits of gas service, and of this total 108 are supplied with natural gas.

On January 1, 1931, a total of 7,832 communities in the United States were supplied with gas, of which 3,074 were being served with manufactured gas, 4,650 served with natural gas and 118 served with liquefied petroleum gas distributed through mains.

There are nearly 1,200 gas companies distributing gas to the public in the United States. This figure does not include numerous companies which produce and transport natural gas and wholesale their entire output to distributing companies.

Saturation of Gas Service

On January 1, 1931, there were 130 gas customers per 1,000 population of the United States (based on 1930 census). Since gas service is not available throughout the entire country this figure does not give a true indication of saturation in territory actually served. There were 217 gas customers per 1,000 population of communities actually supplied with gas, or one gas customer for each five persons in such communities.

The state showing the highest saturation on this basis is California with 289 gas customers per 1,000 population of communities served. Second in rank is New York with a saturation of 254 per 1,000 followed closely by Illinois with 253 per 1,000. Ohio stands in fourth place and the District of Columbia fifth. Mississippi is lowest in rank with 10 gas customers per 1,000 population of the entire State and 69 customers per 1,000 population of communities having gas service.

In the Borough of Manhattan, New York City, there are 312 gas customers per 1,000 population or approximately one customer for every three persons. High saturation figures are, of course, shown for all large cities.

Ranking of States

New York leads in the number of gas customers with a total of 2,915,000, or 18.2 per cent of the total number of customers in the United States. Next in rank are Pennsylvania, Illinois, California and Ohio. These five States have 53 per cent of all the gas customers in the country. The next five States rank as follows: Massachusetts, New Jersey, Michigan, Texas and Missouri. In the 10 highest ranking states are located nearly 75 per cent of all gas customers in the country.

New York ranks first in the number of manufactured gas customers with Illinois second and Massachusetts third. California ranks first in the number of natural gas customers, Ohio second and Pennsylvania third. For many years Ohio ranked first in number of natural gas customers until 1929, when the Pacific Gas & Electric Co. began to distribute natural gas in California, thus giving that State first rank in number of natural gas customers.

MISSISSIPPI TAX ON GAS

Mississippi House Bill No. 177, introduced by Butler, is an act levying an annual license tax, equal to one-fifth of 1 cent per thousand feet, upon all persons, firms, corporations, associations, or copartnerships engaging in the business or severing natural gas from the soil; prescribing that an application for a permit shall be made as a condition precedent to engaging in such business, and requiring the giving of a bond; prescribing the method of collecting the tax; requiring all those engaged in the severance of such product to make quarterly reports of their business; providing a penalty for failure to report or failure to make payment of the amount of tax due when required, and to provide for the disposition of the funds arising from this act.

CANADIAN GAS PRODUCTION

CHATHAM, Ontario, Mar. 5.—Official figures of Canadian natural gas production for November, 1931, just issued by the Dominion Bureau of Statistics show a total production of 2,539,948,000 feet compared with 1,901,073,000 feet in October and 2,929,939,000 feet in November, 1930. In November, 1931, Alberta wells accounted for 71.7 per cent of the total, Ontario 26.2 per cent and New Brunswick 2.1 per cent. Output to the end of November totaled 23,729,065,000 feet, a decline of 9.7 per cent from the corresponding period last year. Imports of mixed (natural and artificial) gas in November, 1931, amounted to 8,352,000 feet valued at $7,116 as against 5,265,000 feet valued at $3,546 in October. Importations for the 11 months ending November 30, 1931, totaled 110,661,000 feet valued at $68,107.

PROGRAM IS COMPLETED FOR SHORT METER COURSE

W. R. McLaughlin, of Shreveport, La., chairman of the program committee for the Southwestern Gas Measurement Short Course to be held at the Engineering College, University of Oklahoma, at Norman, April 26, 27 and 28, announces that the program will cover approximately the same range of topics as heretofore with several new special features. Among the latter will be an address on "Gas Measurement as a Profession," by E. F. Schmidt, Dallas, Tex., general superintendent, Lone Star Gas Co., and addresses by R. E. Miller, Tulsa, secretary, Natural Gasoline Association of America; A. E. Higgins, Dallas, secretary, Natural Gas Department, A.G.A.; J. J. Hassler, Oklahoma City, engineer, Oklahoma Corporation Commission; and R. S. J. Pigott, Pittsburgh, chairman of Fluid Meters Committee, American Society of Mechanical Engineers. The group will be welcomed to the university by Dr. William Bennett Bizzell, president, and J. H. Felgar, Dean of College of Engineering, will discuss the relation between his school and the gas measurement short course.

Equipment shown at this short course is limited to equipment used in the regulation and measurement of natural gas. Strict rules governing this subject, intended to guard against development of any commercial aspect of the project, have been adopted by the general committee in charge, of which B. L. Maulsby of the Oklahoma Natural Gas Corp., Tulsa, is chairman this year. Companies exhibiting must have enough of their equipment in service in the field to make a demand for information concerning this equipment. D. C. Williams, of the Kay County Gas Co., Ponca City, is chairman of the exhibits committee. One rule adopted this year is that hereafter a representative of any company wishing to exhibit its equipment must have attended the course at least one year preceding first showing of such equipment.

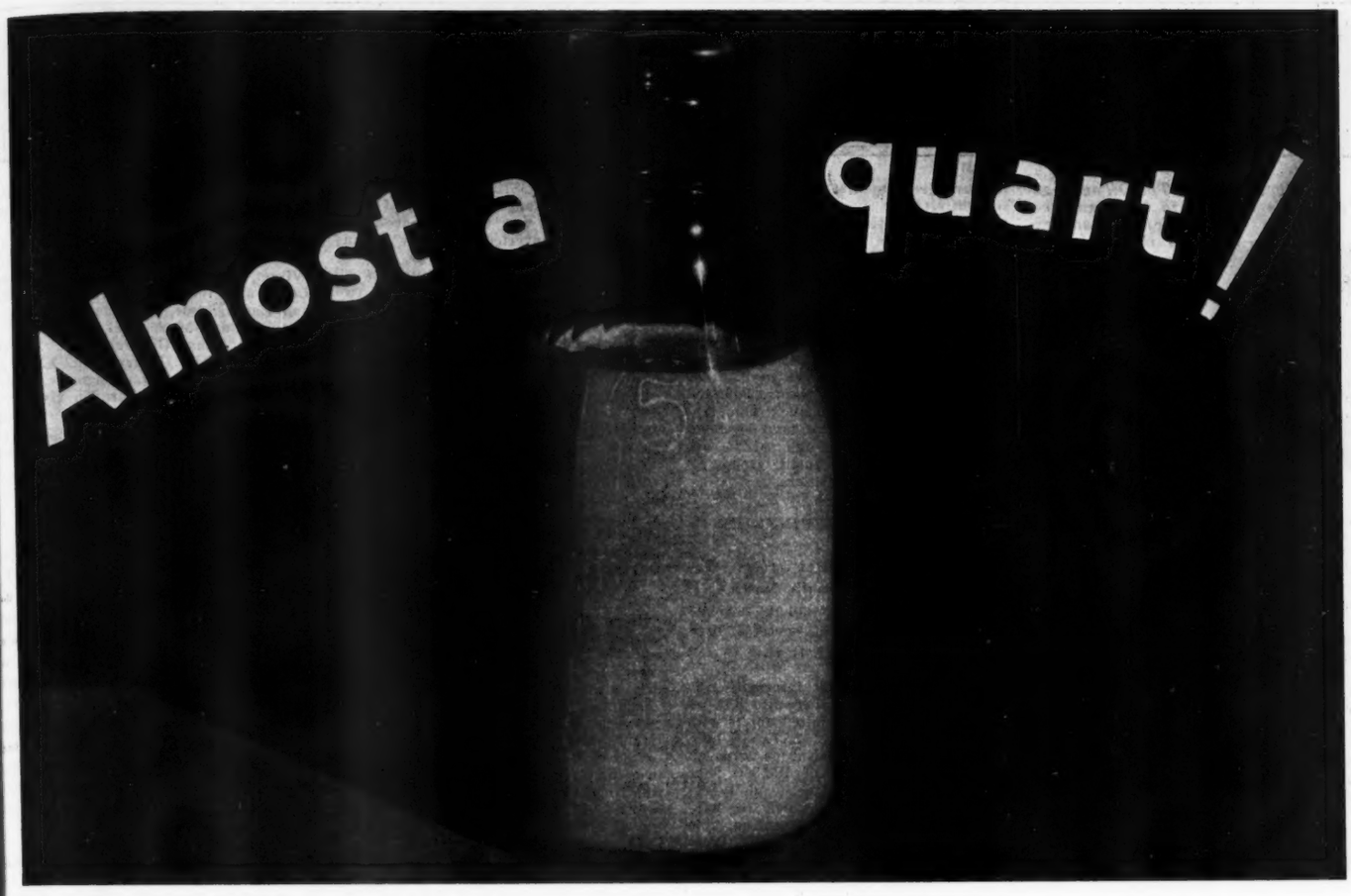
Value of this short course has been greatly increased by the offering of cash prizes for reports to their companies by those in attendance. Seven prizes for the best reports on "What I Learn at the Meter School," are offered, amounts being $15, $10 and five $5 each. Some companies double the prize money. Several large companies have adopted policy of not approving the expense accounts until these reports are received. Reports are between 300 and 500 words and are awarded the following year.

CARLISLE NEW CHAIRMAN

NEW YORK, Mar. 5.—Floyd L. Carlisle, chairman of the board of the Niagara Hudson Power Corp., was elected chairman of the board of Consolidated Gas Co. of New York at the annual meeting. The election of Mr. Carlisle will bring Niagara Hudson and Consolidated Gas closer together, and revives reports of a possible consolidation of the two companies which together control about $2,123,000,000 of electric and gas properties in New York State. George B. Cortelyou was re-elected president of Consolidated Gas Co. for the twenty-fourth time.

NEW USE FOR GAS

CHATHAM, Ontario, Mar. 5.—Development of new natural gas production in Norfolk County, Ontario, will probably result in the extensive use of natural gas by tobacco growers for kiln firing. The Norfolk gas is free from sulphur, and its use would, it is claimed, insure uniformity of heat, simplify regulation of heat and eliminate the labor of wood or coal stoking.



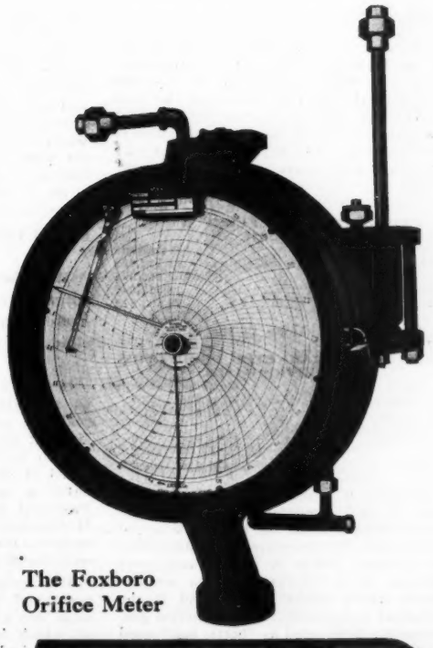
But It Won't Bring a Quart PRICE!

If you were handling milk you could tell at a glance how much you were buying or selling. But you can not see cubic feet of gas and you can not check gas measurement by eye!

Reliable, accurate meters are necessary in gas measurement. To be reliable a meter must *stay* accurate over long periods. It must stay accurate without *too* frequent checking.

Because of its Straight Line Motion the Foxboro Orifice Meter will maintain its extreme accuracy *longer than any other* and its maintenance cost is the lowest. We stand ready to prove this any time and any where.

If you buy or sell gas, our new bulletin, "Orifice Meters for Gas," No. 176-J, should be on your desk. Write for it today.



The Foxboro Orifice Meter

THE FOXBORO COMPANY
Neponset Avenue, Foxboro, Mass., U. S. A.
BRANCH OFFICES IN PRINCIPAL CITIES

FOXBORO
REG. U. S. PAT. OFF.
THE COMPASS OF INDUSTRY

Instruments for Controlling, Recording and Indicating Temperature, Flow, Level and Pressure

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas, and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

PRODUCTION OF LIQUEFIED GAS

What is the production of liquefied gas such as propane and butane? What use is made of this gas? Is there an increasing demand for liquefied gas and which gas is sold in the larger quantity? —H. A. H.

According to a recent report of the U. S. Bureau of Mines, by E. B. Swanson, the 1931 production of liquefied gases in the United States for the year 1931 shows an increase of 58 per cent over the year 1929, with 14 companies in the business. The rapid increase during the past four years is indicated in the table.

PRODUCTION LIQUEFIED GASES, 1928-1931

Year—	Gallons
1928	4,522,899
1929	9,930,964
1930	15,017,347
1931	28,502,819

The uses are shown in the table.

USES OF 1931 MARKETED PRODUCTION LIQUEFIED GASES

Use—	Gallons	Per cent
Domestic	15,294,648	53.7
Gas manufacturing	6,184,655	21.7
Industrial and miscellaneous	7,023,516	24.6
Total	28,502,819	100.0

Propane is a gas at atmospheric pressure at such temperatures as may ordinarily be met with, but may be liquefied under moderate pressure and transported in cylinders, drums or other special containers. It is self-vaporising at temperatures above minus 44° F. and is the principal constituent of the liquefied gas, commonly designated as "bottle gas," used in the individual installations in homes, clubs, boats and other places unconnected with a central gas supply. An approximate segregation of the gases marketed indicates that the 1931 distribution of propane was about 15,000,000 gallons. An average consumption of approximately 100 gallons per installation was indicated.

Pure butane is not ordinarily used in "bottled gas" service, as temperatures frequently may be too low to permit the necessary self-vaporization. Butane, consequently, finds its principal market in the industrial fields. The outstanding development in the use of butane has been its application to gas manufacture in central stations in communities too small to support a gas service of the ordinary manufactured type or the distribution of natural gas. In the more common type of central station, butane is mixed with air in determined proportions. Such plants commonly are known as "butane-air gas plants." Some plants, however, distribute undiluted propane. This type of distribution appears to have developed through the experience gained in distributing propane to small groups of houses from a single station.

FOREIGN OIL REFINERIES

What is the location of foreign refineries, particularly in South America. If possible will you kindly supply me with a list of publications and sources of literature on this subject—E. C. H.

Based on the available information as of September 1, 1931, there are 351 refineries outside of the United States with a total daily capacity of 1,771,770 bbls. Of these 247 were in Europe with an average daily capacity of 790,300 bbls. South America has 38 plants, daily capacity 423,620 bbls., of which 16, handling 56,770 bbls., are in Argentina, nine refineries in Venezuela and the West Indies can run 323,100 bbls. a day, and the remaining 13 refineries in other South American countries have a total capacity of 53,750 bbls.

In Asia there are 24 plants, total daily capacity 147,300 bbls.; Africa has only three, refining 12,400 bbls., and Oceania 14, total capacity 127,950 bbls. There are 25 refineries in Mexico, Canada, and Cuba, these having a total daily capacity of 260,200 bbls.

The refineries of South America, together with those of the West Indies and Trinidad, are listed by name, location and other details in The Oil and Gas Journal December 31, 1931, page 14. The world refineries are listed by countries in the same issue, page 58. Additional information may be obtained from the lists of the U. S. Bureau of Mines.

CATALYSTS FOR HYDROGENATION

What information is there covering the nature of the catalysts necessary for the hydrogenation process for making gasoline from coal or petroleum?—L. F. C.

Several catalysts have been mentioned as suitable for hydrogenation of both coal and petroleum residues or gas oil. Most of the work discussing this phase of the hydrogenation process is to be found in the German and English journals. A partial review of the article, Technical Measures for Rationalizing the Hydrogenation Process, by I. Reichenbach, in Die Metallborse, 70, 1931, may serve to show this application.

The hydrogenation of brown coal is performed in two stages: The coal is made into a paste by mixing with a heavy oil which is a high boiling fraction of the coal hydrogenation products. At 824° F. and 2,900 pounds pressure, and with a molybdenum-zinc catalyst, the first stage of hydrogenation is carried out. The oil product from this treatment is separated into low and high boiling fractions, and the fraction boiling between 392° and 572° F., corresponding to 70 per cent of the pure brown coal, is volatilized in the presence of hydrogen under a pressure of 2,900 pounds and at a temperature of 872° F., using a catlyst consisting of tungstic oxide and magnesia. In this way 60 per cent of the fraction is converted into low boiling point oil of the motor fuel type.

A series of experiments with gas oil consisted of separating the oil into two fractions; one fraction boiling between 392° and 482° was vaporized in the presence of hydrogen at 2,900 pounds and 834° with a catalyst of molydic oxide, chromic oxide and kaolin and aluminium, and the other fraction boiling between 482° and 572° was vaporized at 860° and treated similarly to the first fraction. In the first case a product with 80 per cent and in the second case a product with 70 per cent was obtained with boiling points at or below 356°. The results of this work established the fact that the optimum condition for a high output of motor fuel is a boiling point range of the raw material from 392° to 482° F.

For the complete conversion of the raw material into a high grade motor fuel without the formation of coke, the following treatment of crude oil was adopted: The crude oil was first topped of the fraction boiling up to 392°; the remainder, with an endpoint of 617°, under a vacuum of 11 mm. of mercury, was treated with a stream of hydrogen in the liquid phase at 842° and 2,900 pounds pressure, in the presence of molydic oxide in a lump form as catalyst. The product was fractionated, and the fraction boiling below 392° was regarded as finished; the fraction boiling between 392° and 527°, amounting to 60 per cent of the raw material, was also separated, while the still higher boiling point fraction was returned to be mixed with fresh oil. The middle portion was hydrogenated further at a temperature of 896° and pressure of 2,900 pounds in the presence of tungstic oxide and magnesia, which resulted in 75 per cent being converted into motor fuel. Through continued treatment of the higher boiling fraction, the whole was converted into motor fuel, less a small gas loss.

SPECIFIC HEAT DATA

We have use for information on refinery and other gases with a low ratio of specific heats and wish to ask if you can recommend a good source for this information. We would be interested in any up to date magazine article on this subject.—G. W. H.

The specific heat of the gaseous hydrocarbons varies between 0.442 and 0.593 B.t.u. per pound or 0.025 to 0.100 B.t.u. per cubic foot, the highest 0.593 being the specific heat of methane. Numerous investigators have shown the specific heats of petroleum and the petroleum distillates, to range from 0.4 to 0.6, but 0.45 would represent the average crude oil over the lower temperatures, while 0.6 would serve for oils at a temperature of 750° F.

Fortsch and Whitman after examining 15 oils for specific heat, over a temperature range 50°-430° F., found that the specific heat could be expressed by

$$C = \frac{(t+670)\ (2.10 - \text{sp. gr.})}{2030}$$

Where C = the specific heat, t = °F., and sp. gr. = the specific gravity of the oil at 60° F.

This formula has been transformed to logarithmic form by O. G. Wilson, Jr., and two nomographic charts prepared for finding specic heats and sensible heats. Although these charts may be read to 1,000° F., none of the fundamental data upon which they are based, extends much above 500° F. However, they are satisfactory under certain conditions for engineering purposes to a temperature of 800° F.

References — Fortsch & Whitman, J. Ind. Eng. Chem., 18, 795; 1926. O. G. Wilson, Jr., same, 19, 824; 1927. Cope, Lewis and Weber, 23, 887; 1931. Weir and Eaton, same, 24, 211; 1932. Lipka, Graphical and Mechanical Computation—Wiley & Sons. Goodenough—Princ. of Thermodynamics, Henry Holt. Marks & Davis, Steam Tables, Longmans, Green & Co. Properties of Paraffin Hydrocarbons, Edmister and Buskel, The Oil and Gas Journal, July 2, 1931, page 22. Constants of Paraffin Hydrocarbons, Francis, the same, July 23, 1931, page 102.

DISCOLORATION OF LUBRICATING OILS BY HEAT

Samples of various Mid-Continent lubricating oils when heated to 375° F. darken considerably. The 300 neutrals do this to a lesser degree than the lower neutrals. The only samples that do not lose color are the long residuum oils. What is the explanation of this test? Some dealers here are marketing a motor oil with exceedingly high flash, the S.A.E. 40 having a flash of 455° F. It is our understanding that this was an unnatural and impossible flash for Mid-Continent motor oil unless it was a synthetic product; kindly explain.—W. C. L.

The formation of color in petroleum products at high temperatures appears to be caused by the rapid oxidation of some of the compounds present. This is especially true for lubricating oils that may contain unsaturated compounds because of faulty treating. It is well known that there is always a tendency to cause polymerization with mounting temperatures, and the polymerized bodies of lubricating oils are usually strongly colored.

It is always noted when making the flash test that as the flash temperature is approached there is a darkening of the oil, which is an indication of decomposition. The lower the viscosity of an oil the lower the temperature to which it has been heated during the process of distillation for its separation and if it is heated beyond the temperature at which any part of it will distill, there must be decomposition. Since the heavier, high viscosity, oils have been subjected to the higher temperature it is natural that any discoloration or decomposition will have to be caused by relatively high temperatures.

High viscosity means, for properly separated and fully refined lubricating oils, a corresponding high flash point. This may be illustrated by these tests for several heavy oils, as shown in the table.

FLASH AND SAYBOLT VISCOSITIES LUBRICATING OILS

Flash °F.	Viscosity at 210°F. seconds
535	312
445	60
520	74
556	214
416	62
400	76
520	114
500/600	130/250
460/480	80/85
555/600	75/95

The third form and the next to the last groupings represent Mid-Continent lubricating oils and the last represent California oils; the origin of the other oils is uncertain. These oils are made by different refiners from many grades of oil and by different methods. The essential consideration is that conditions of distillation required to obtain the high viscosity control the flashpoint; further, high flashpoint usually is an indication of good refining.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 30)

J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur.....T.D. 365 ft.; S.D.
Jas. Scroggins' No. 2 Warrick, Ingram Sur. .....T.D. 1,432 ft.; S.D.

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio .....T.D. 610 ft.; drlg.
J. E. Anderson's No. 1 Suburban Irrigated Farms, 500 ft. to N line, 600 ft. to E line of C. Logan Sur.....T.D. 1,773 ft.; abnd.
Eckert et al's No. 1 Edwards, 150 ft. to N and W lines of farm in Martinez Sur. .....T.D. 1,490 ft.; standing.
Callahan Final Oil Co.'s No. 1 B. H. Buck, 900 ft. to E line, 3,200 ft. to S line of farm, in J. M. McGamley Sur. .....T.D. 650 ft.; S.D.
Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. .....T.D. 2,400 ft.; S.D.
Jones & Voltz' No. 6 Bonkowsky .....T.D. 650 ft.; drlg.
O. K. Oil Co.'s No. 1 Strum, 150 ft. S of N line, 150 ft. W of E line, John Grant Sur. .....T.D. 150 ft.; drlg.
O. K. Oil Co.'s No. 2 Strum, 150 ft. from S line, 1,051 ft. W of E line, Juan Mantes Sur. .....Drlg.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio .....T.D. 1,150 ft.; S.D.
S. W. Blount's No. 1 S. A. Land Co., I. Perez Sur., 1,000 ft. to N line, 450 ft. to W line of tract .....T.D. 520 ft.; S.D.

CALDWELL COUNTY

Cole & Moseley's No. 1 Pierce, 150 ft. to NW and SW lines of tract, Solomon Seal Sur. .....T.D. 825 ft.; S.D. for repairs.
Kistler, Stivers & Hendrick's No. 1 D. Carter, 400 ft. from NW line of Sur., 300 ft. NE of Creek in I. Allen Sur. .....Rigging up.
Meyer's No. 1 G. C. and W. Walker, Solomon Seal Sur....T.D. 160 ft.; standing.
M. O. Rayor's No. 3 N. L. Dunlop, 350 ft. to NW line, 150 ft. to NE line of farm, Solomon Seal Sur. .....T.D. 2,503 ft.; comp. small amount of oil.

DUVAL COUNTY

Frank Gravis et al's No. 2 Schallert, 425 ft. to E line, 150 ft. to S line of Blk. 10, Cain & Smith Subd. "A", Sur. No. 255 .....T.D. 1,550 ft.; drlg.
O. W. Killam's No. 1 Peters, 150 ft. from E line, 450 ft. from N line of SE of Sur. No. 1 .....T.D. 2,026 ft.; drlg.
Ohio Fuel Oil Supply's No. 1 Smith-Camp, 150 ft. from SW and SE lines of Sur. 574 .....Location.
Suttle et al's No. 1 Bennett, 150 ft. from N and E lines of Sur. No. 44 .....Rigging up.
R. A. Thompson's No. 1 Parr, 2,640 ft. to W line, 12,160 ft. to S line of San Andres grant .....T.D. 3,568 ft.; S.D.

GUADALUPE COUNTY

Barnhill et al's No. 1 H. L. Hoffman, 450 ft. to N and W lines of farm, in John G. King Sur. .....T.D. 850 ft.; S.D.
Luling Oil & Gas Co.'s No. 1 J. D. Brown, 160 ft. from N line, 450 ft. from E line of tract in C. Wall Sur....Rigging up.

GOLIAD COUNTY

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,200 ft. from W line of Peter B. Dexter Sur. .....T.D. 2,279 ft.; rig up to deepen.
Plymouth Oil Co.'s No. 1 Parks, 5 miles NE Goliad .....T.D. 4,625 ft.; waiting on orders.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. .....T.D. 4,565 ft.; standing.

GONZALES COUNTY

Crowder Oil Co.'s No. 1 Preston, 1,000 ft. from W line, 2,000 ft. from N line of W. W. Pace Sur. .....Spudded in and S.D.
Johnson & Mattock's No. 1 J. James, 12 miles NE of Gonzales city, 900 varas from E line, 300 ft. from S line of tract in M. A. Williams Sur. .....T.D. 200 ft.; drlg.
Nassamer, Gordon & Waldrop's No. 1 B. Botts, 2,500 ft. from E line, 650 ft. from S line in Sec. 6, Blk. 56, Gonzales Sur. .....Location.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) .....T.D. 4,000 ft.; drlg.
LaJoya Oil & Gas Co.'s No. 1 W. L. Hart, 6 miles W from Mission, north of San Fordyce .....T.D. 5,100 ft.; contract depth.
Dayle L. Smith's No. 1, 18 miles W from Edinburg ....T.D. 4,026 ft.; standing, showing gas.
San Roman Oil Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. .....T.D. 2,500 ft.; drlg.
Dayle L. Smith's No. 3 Daskam, SW part of county.....T.D. 755 ft.; drlg.

JIM HOGG COUNTY

L. W. Connor's No. 1 Holbien, 150 ft. from N and E lines of Blk. 7, Sur. 7, Holbien Subd. of Las Animas grant .....T.D. 1,805 ft.; testing sand.
T. P. Morgan's No. 1 fee, 2,223 ft. to N line, 1,640 ft. to E line of Share 19, Palo Blanco grant .....T.D. 2,225 ft.; drlg.

JIM WELLS COUNTY

Gulf Prod. Co.'s No. 5 Shaeffer, SE cor. of Sur. No. 89...T.D. 3,044 ft.; plugged back, tested big gas well.
Vacuum Oil Co.'s No. 1 Seeligson, 4,500 ft. to W line, 75,000 ft. to S line of Los Jaboncillos Sur. .....T.D. 3,810 ft.; drlg.

KARNES COUNTY

A. E. Edmiston's No. 1 O. L. Cochran, 150 ft. from S line, 500 ft. from E line of farm in D. B. McConnell Sur. .....T.D. 1,800 ft.; standing.

KENDALL COUNTY

Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale .....T.D. 2,708 ft.; standing.
Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of county .....T.D. 50 ft.; S.D.

KERR COUNTY

George Ball's No. 1 F. A. Karger, 3 miles north of Kerrville .....Rig on ground.
Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28..T.D. 1,312 ft.; standing.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 .....T.D. 5,871 ft.; drlg.
Verde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,220 ft. from W line of Sec. 1,923, Hamilton Sur., 4 miles S from Center Point. T.D. 200 ft. Carried to this depth and abandoned as Herber Oil Co.'s No. 1 J. D. Witt .....T.D. 270 ft.; drlg.

LIVE OAK COUNTY

Coastal Oil Finding Co.'s No. 1 Handley, 1,200 ft. from SE line, 400 ft. from SW line of tract in C. S. Cobb Sur. .....Spudded in.
J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. No. 37 .....Spudded in and standing.
Henderson Coquat's No. 1 Hewitt, 250 ft. from N and E lines of SW of Sec. 5, Thomas Adams Sur. .....T.D. 1,785 ft.; S.D.
Henderson Coquat's No. 2 Sanger, 1,280 ft. NW of No. 1 Sanger .....Rigging up.

LEE COUNTY

Henderson & Holden's No. 1 Dismuke, 600 ft. to E line, 150 ft. to N line of farm, J. Maxmillan Sur. .....Rigging up.
A. R. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. .....T.D. 3,890 ft.; S.D.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. ....T.D. 2,300 ft.; S.D.
Chadwick et al's No. 1 Hickey, 1,000 ft. to NW line, 300 ft. to NE line of farm in Varreiman Sur. .....T.D. 20 ft.; spudded in.
Washington-Lee Oil Co.'s No. 1 L. Hicket, 1,100 ft. from N line, 200 ft. from E line of tract in J. D. Varreiman Sur. .....Location.

McMULLEN COUNTY

V. G. Shimmel's No. 2 Hale, 300 ft. S of No. 1 Hale.....Rigging up.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera, School Land .....T.D. 2,284 ft.; standing

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113 .....T.D. 922 ft.; twisted off drill stem fishing.
C. J. Webster Oil & Gas Co.'s No. 1 Adams, 2,450 ft. to N line, 160 ft. to E line of Jos. Hillemeyer's No. 25. T.D. 2,850 ft.; abnd. in Edwards.

MILAM COUNTY

H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tract in B. Wickson Sur.....T.D. 3,000 ft.; S.D.
Red Bank Oil Co.'s No. 2-A J. A. Foster, 5,243 ft. to SW line, 150 ft. to NW line of farm .....T.D. 5,055 ft.; drlg.
Frank A. Yeager's No. 1 Hose, 750 ft. from E line, 150 ft. from S line of lease in E. Allen Sur. .....T.D. 1,376 ft.; set csg.

NUECES COUNTY

Camp and Stanolind Oil & Gas Co.'s No. 1 King, 600 ft. to N and W lines of Sec. 23, Richard King farm lots subd. .....Spudded in, S.D. for water.
C. E. McCarthy's No. 1, W of Corpus Christi .....Making location.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 .....T.D. 2,530 ft.; resuming drilling.

SAN PATRICIO COUNTY

John F. Camp's No. 1 Jackson, SW cor. of SW Sec. 30, 3 miles N from Edroy .....T.D. 1,220 ft.; drlg.

STARR COUNTY

Davenport et al's No. 1 Wells, 30 miles W of Mission ... .T.D. 1,093 ft.; casing stuck.
R. E. Johnson's No. 1 Goodrich, 1,214 ft. from N line, 1,065 ft. from W line of tract, 1½ miles N of Rio Grande City .....T.D. 1,380 ft.; set csg.
Strauch Oil Corp.'s No. 1 M. E. Salinas, 155 ft. from N and W lines of lease in Porcion 80, Share 38 .....T.D. 860 ft.; drlg.
R. B. Suttle's No. 1 Guerra, 2,000 ft. to N line, 270 ft. to W line of Porcion 110 .....T.D. 810 ft.; no report.
Jess Williams' No. 1 Welsh, 1,120 ft. to W line, 1,500 ft. to N line of tract in Pedernal grant .....T.D. 550 ft.; standing.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. .....T.D. 1,180 ft.; S.D.
Fuchs et al's No. 1 Shiffler, 1,000 ft. to N line, 160 ft. to E line of farm, A. C. Caldwell Sur. .....T.D. 515 ft.; standing.
Ray & Henze's No. 1 Hatech, in C of tract in S. Hamilton Sur. .....T.D. 540 ft.; S.D.

WEBB COUNTY

O. W. Killam's No. 4 Bruni, 5,050 ft. to NE line, 7,675 ft. to SE line of El Ranchito tract, J. V. Borrego grant .....Derrick.
Power & Dettenhalm's No. 1 Cowan & Goss, 1,870 ft. from W line, 1,656 ft. from N line of Sur. No. 1,606. T.D. 405 ft.; standing.
Fansler, Johnson & Peacock's No. 1 Laurel, 425 ft. to N line, 600 ft. to E line of Blk. 10, Sur. 271 .....T.D. 1,685 ft.; drlg.
W. R. Shankle's No. 1 Ellison Furniture & Carpet Co., 150 ft. from SW and NW lines of Blk. 2, Sur. 466 ...T.D. 1,100 ft.; drlg.

WILLIAMSON COUNTY

Burns et al's No. 1 Wilder, 1,800 ft. to N line, 200 ft. to W line of tract in H. Owens Sur. .....T.D. 1,480 ft.; no report.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tract in B. C. Low Sur., S of Georgetown .....T.D. 1,595 ft.; S.D.
McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 100 ft. to W line of tract in B. Manlove Sur. .....Rigging up.
G. B. Peterman's No. 1 Galler, 1,800 ft. from S line, 150 ft. from W line of 140-ac. tract in H.Y.&B.R.R. Sur. .....T.D. 1,100 ft.; drlg.
R. S. Wilson's No. 1 Speckles, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland .....T.D. 875 ft.; S.D.

ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 580 ft. from SE line of Blk. 27, Porcion 37 .....T.D. 1,865 ft.; drlg.
George Ball's No. 1 Gutierrez in Charco Redondo grant, taken over from Moore et al to deepen ... .T.D. 2,065 ft.; drlg.

ZAVALLA COUNTY

Carpenter & Jenkins et al's No. 1 John Wolf, Sec. 8, Abstract 1,199 .....T.D. 767 ft.; setting csg. to test show of gas.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 30)

SALT FLATS POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, 150 ft. to N line, 750 ft. to W line of tract, A. Floyd Sur. .....T.D. 2,704 ft.; standing.
John Storey's No. 1 Dickerson, 150 ft. to N of center of S line of tract, John R. Rains Sur. .....Rigging up.

COLE POOL—DUVAL COUNTY

Cole Petroleum Co.'s No. 75 Benavides, 365 ft. from NE line, 150 ft. from NW line, Blk. 8, Sec. 18, Mariana Arispe grant .....T.D. 3,012 ft.; set csg.; preparing to swab.

GOVERNMENT WELLS—DUVAL COUNTY

Duval Oil Corp.'s No. 3 Bishop Cattle Co., 660 ft. E of No. 1 in Sur. No. 135 .....T.D. 2,330 ft.; coring.
Humble Oil & Ref. Co.'s No. 3 Paul White, 1,650 ft. from S and W lines of Sur. 58 .....Spudded in.

S.R.C. POOL—DUVAL COUNTY

S.R.C. Oil Co. and Magnolia Pet. Co.'s No. 7 Duval Land Co. .....1,736 ft.; set csg.
Thomas & Tarver, Inc.'s No. 6 Bishop Cattle Co., 600 ft. E of No. 2 .....Spudded in.

DARST CREEK POOL—GUADALUPE COUNTY

Humble Oil & Ref. Co.'s No. 3-C Denman, 600 ft. NE of No. 2-C Denman, 700 ft. from W line of lease ....T.D. 2,549 ft.; set csg.

SLICK POOL—DEWITT-GOLIAD COUNTIES

Simms et al's No. 1 J. C. Tom .....T.D. 3,855 ft.; drlg.

RANDADO POOL—JIM HOGG COUNTY

O. W. Killam's No. 1 Hinnant, 150 ft. N of NE cor. of Sur. No. 84 in Sur. No. 614 .....T.D. 1,300 ft.; drlg.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim .....T.D. 4,850 ft.; standing.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Sagarin .....T.D. 3,100 ft.; standing.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell .....T.D. 5,070 ft.; standing.
Gulf Coast Oil Co.'s No. 3 Sedwick, east offset to Houston Oil Co.'s No. 1-B Maggie Harrell .....Making location.
Houston Oil Co.'s No. 1 McGregor, 150 ft. from E line, 330 ft. from S line of 100-ac. tract in Sur. 311 .... T.D. 4,250 ft.; drlg.
Neal, Milton & Kepley's No. 2 Roark .....Making location.
Rutherford Drilling Co.'s No. 1 Hunter, 150 ft. from S and W lines of 10-ac. tract .....Rigging up.
Saxet Oil Co.'s No. 3 Donigan, north offset to Zoch's No. 1 Baldwin .....Location.
Saxet Oil Co.'s No. 5 Weil, 3,041 ft. to N line, 333 ft. to W line .....T.D. 2,500 ft.; standing.
Saxet Oil Co.'s No. 6 Dunn, 600 ft. S of No. 5 Dunn, 4 miles W from Corpus Christi .....T.D. 5,700 ft.; drlg.

ARANSAS POOL—SAN PATRICIO COUNTY

Atlantic Oil Prod. Co., to deepen to 6,000 ft. the Welder Oil Corp.'s No. 3 Welder .....T.D. 3,689 ft.; to deepen.

LOS OLMOS POOL—STARR COUNTY

Hooks & Weaver's No. 4 Kelsey-Bass, 600 ft. N of their No. 1 Kelsey-Bass .....T.D. 450 ft.; set csg.
J. A. Tarver's No. 1 A. K. Bass, 150 ft. from N and E lines of lease .....T.D. 375 ft.; drlg.
Jones & Watt's No. 1 Kelsey-Bass, 200 ft. to N and W lines of Sur. 7, Porcions 75, 76 and 77 .....T.D. 402 ft.; drlg.

M. A. Landrum's No. 1 A. K. Bass, Sec. 6, 150 ft. to S and E lines of lease ..... Location.
Los Olmos Oil & Gas Co.'s No. 9 Kelsey-Bass, 450 ft. from W line, 150 ft. from N line of SE SW of Sur. No. 6 ..... T.D. 502 ft.; set csg.
Los Olmos Oil & Gas Co.'s No. 10 Kelsey-Bass ..... T.D. 340 ft.; set csg.
Quien Sabe Oil & Gas Co.'s No. 2 Kusch, 150 ft. from N line, 525 ft. from E line of Tract 11 in Porcion 75 .. T.D. 210 ft.; drlg.
Rio Oil & Gas Co.'s No. 1 Kelsey-Bass (formerly carried as Los Olmos Oil & Ref. Co.'s No. 1 Kelsey-Bass) ..... T.D. 910 ft.; standing.
Rio Oil & Gas Co.'s No. 3 Kelsey-Bass, No. 6 Subd., Porcions 75, 76, 77 ..... T.D. 300 ft.; drlg.
San Marcos Oil & Gas Co.'s No. 7 Ivey, 450 ft. S of No. 6 Ivey ..... T.D. 480 ft.; drlg.
E. W. Sullivan's No. 1 Kelsey-Bass, 60 ft. from N and W lines of SE SE SE of Sur. 7 ..... T.D. 540 ft.; drlg.

WEST COLE POOL—WEBB COUNTY

French Oil Corp.'s No. 5 Benavides, 1,602 ft. from N line, 150 ft. from W line of Sur. 659 ..... T.D. 2,335 ft.; oil standing in hole.
French Oil Corp.'s No. 7 Benavides, 2,310 ft. from N line, 150 ft. from W line of Sur. 659 ..... Location.

ESCOBAS POOL—ZAPATA COUNTY

E. R. Black & Paul S. Williams' No. 1 Comitas grant, 150 ft. from S and E lines of Blk. 100 ..... Location.
F. M. Blair & Son's No. 1 Montemayor, 450 ft. to N, 150 ft. to E line of Blk. No. 1, Sur. No. 63 ..... Rigging.
Brogan & Belcher's No. 1, M. Garza, 150 ft. to NE and SE lines, Blk. 62, C. A. Douglas Subd. of Zorro ranch, Comitas grant ..... T.D. 1,965 ft.; drlg.
Daniels & Hill's No. 2 Montemayor, 112 ft. from N line, 774 ft. from E line of Blk. 7, Sur. 64 ..... T.D. 1,484 ft.; sand tested, drlg.
F. H. Etheridge's No. 5 Bustamente, 1,540 ft. from NE line, 150 ft. from NW line of Sun 86-ac. lease, Share 35, Fansler's Partition, Comitas grant ..... Abnd. location.
K. & M. Oil Co.'s No. 1 Cuellar, 150 ft. from N and W lines of Blk. 7, Sur. 13 ..... T.D. 1,508 ft.; comp., gasser.
D. M. Shaffer's No. 1 M. Garza, 150 ft. from NE and NW lines of Blk. 56, C. A. Douglas Subd. of Zorro ranch ..... Rigging up.
S.R.C. Oil Co.'s No. 6-D Montemayor, 150 ft. from N and W lines of Blk. 10, Sur. 64 ..... T.D. 1,482 ft.; plugged.
S.R.C. Oil Co.'s No. 8-D Montemayor, 150 ft. from S and E lines of Blk. 8, Sur. 64 ..... 1,430 ft.; coring.
Trevino Oil Corp.'s No. 1 M. Garza Estate, 150 ft. from NE line, 250 ft. from SE lines of Blk. 36, Douglas Subd., Comitas grant ..... T.D. 800 ft.; drlg.
Trevino Oil Corp.'s No. 16-A Trevino, 150 ft. from S and E lines of Blk. 14, Sur. 412 ..... Location.
Winch & Billings' No. 9 Bustamente, 1,218 ft. from NE line, 150 ft. from SE line of 31-ac. Pal-Mar tract in Share 35, Fansler's Subd., Comitas grant ..... T.D. 2,000 ft.; drlg.
Winch & Billings' No. 10 Jose Benavides, 500 ft. from NE and 170 ft. from SE line of 31-ac. Pal-Mar tract, Share 35, Fansler Partition of Comitas grant ... Location; (number changed).

CHARCO-REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 28 Martinez, 990 ft. from SW line, 615 ft. from SE line, Blk. 24, Duke Subd., Charco Redondo grant ..... Location.
Bob & Richey's No. 29 Martinez, 810 ft. from SW line, 360 ft. from SE line of Blk. 24, W. R. Duke Subd., Charco Rendondo grant ..... Location.

MARTINEZ POOL—ZAPATA COUNTY

F. H. Etheridge's No. 3 Winch & Henne, 160 ft. from W line, 200 ft. from S line of Blk. 10, Sur. 286 ..... Spudded in.
K. & M. Oil Co.'s No. 1 Trevino, 150 ft. from N and W lines of Blk. 7, Sur. 13 ..... Moving in.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 31)

Republic Prod. Co.'s No. 145 Dolbear, Jesse DeVore Sur., 200 ft. SE of No. 85 and 200 ft. N of No. 61 ..... Drlg. gumbo 1,502 ft.

PIERCE JUNCTION—HARRIS COUNTY

Anderson & Plummer's No. 4 Whitehead (W.O.) ..... T.D. 4,521 ft.; sidetracking in sandy shale 4,055 ft.

REFINERY MEN!

Can find more information in each weekly issue of The Oil and Gas Journal than from any other source.

Every edition contains all the latest news, developments and practices of the Refining branch of the Petroleum Industry.

Fill out the coupon below and mail it to us.

The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

TULSA, OKLAHOMA

Please enter my subscription, effective with the current issue. I enclose ( ) $2.00 for 3 months; ( ) $3.00 for six months; ( ) $6.00 for one year.

(Check term of subscription desired)

NAME_____

TITLE OR OCCUPATION _____

COMPANY_____

SUBSCRIPTION ADDRESS _____

CITY_____ STATE_____

3-10-32

Gulf Prod. Co.'s No. 9 Cain, Jas. Hamilton Sur. No. 95, 150 ft. N of No. 20 Taylor and 290 ft. E of W line of Cain lease ..... Drlg. hard sand 3,745 ft.
Humble Oil & Ref. Co.'s No. 1 Hooks (D.D.), James Hamilton Sur. No. 52, 904 ft. N of SW cor. along W line of lease and 396 ft. E at right angles ..... Cap rock 4,255 ft.; plugged to 4,005 ft.; set screen in sand 3,874-94 ft. and 3,930-58 ft.
Pure Oil Co.-Moody Receiver's No. 3 Herman, Jas. Kopman Sur., 200 ft. due W of C of E line of 25-acre tract ..... Rig.
Rio Bravo Oil Co.'s No. 21-A Settegast (D.D.), J. Kopman Sur., 400 ft. S and 200 ft. E of NE cor. "A" lease ..... Drlg. sand and shale 4,245 ft.
Rio Bravo Oil Co.'s No. 23-A Settegast, Jos. Kopman Sur. No. 44, 1,375 ft. S and 200 ft. W of NE cor. "A" lease ..... Drlg. sandy shale showing oil 4,144 ft.

RABBS RIDGE—FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 3 George, John Rabb Sur., 1,000 ft. due E of No. 2 ..... Drlg. sticky shale 4,611 ft.
Cullen & West and Gulf Prod. Co.'s No. 3 Lockwood, John Rabb Sur., 1,000 ft. due E of No. 2 ..... Spudded.
Gulf Prod. Co.'s No. 1 T. R. Booth, Samuel Kennedy Sur., 475 ft. N of S line of Booth 475-acre tract, due N offset No. 1 Booth-Meyers ..... Drlg. shale 2,052 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 25 Cade, N. Fitzsimmons Sur., 100 ft. due W of No. 23 ..... Sand 5,372-5,447 ft.; set 74¾ ft. of 3½-in. screen and 2½-in. tubing; swabbing.
Yount Lee Oil Co.'s No. 26 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 24 ..... Drlg. gumbo 1,820 ft.
Yount Lee Oil Co.'s No. 27 Cade, N. Fitzsimmons Sur., 600 ft. N of No. 21 in line with Nos. 22 and 23 ..... Location.
Yount Lee Oil Co.'s No. 1 Broussard & Orme, 300 ft. E of N cor. of N. Fitzsimmons Sur., in Martin Dunman Sur. ..... Drlg. shale and lime 3,105 ft.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 9 Wisdom, S 45 deg. 312 ft. from NE cor. Lot C, Blk. 62, A. Darst Sur., and thence S 45 deg. 325 ft. in Lot A ..... Derrick.
The Texas Company's No. 2 Cave, 165 ft. NE and 55 ft. N, 45 deg. W from S cor. Lot B, Blk. 73, Wisdom Subd., A. Darst Sur. ..... Drlg. shale and lime 3,395 ft.

BLUE RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 19 Luscher, Thos. Habermacher Sur., 1,650 ft. from N line and 550 ft. from E line of 490-acre tract ..... Spudded.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 32 Moore, Jas. Frazier Sur., N of No. 20 ..... Spudded.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 4 Davis (D.D.), Kokernot Sur. ..... Sand 4,084-4,124 ft.; comp. flowing 300 bbls. P.L. oil, ⅝-in. choke.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 129-A "B" ..... T.D. 570 ft.; to set screen 510-65 ft.; comp. flowing 73 bbls. net oil and 21 bbls. water.
Rio Bravo Oil Co.'s No. 130-A "B" ..... Drlg. sand and shale 205 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 14 Mayes, E. H. R. Wallis Sur., 650 ft. due E of No. 11 in line with No. 9 ..... Sandy shale showing oil 2,814 ft.; preparing to set csg. to test.

MARKHAM—MATAGORDA COUNTY

Deering & Newman's No. 1 Meyers (W.O.), Wm. Hadden Sur., 100 ft. E of C of W line ..... T.D. 4,788 ft.; abnd.
L. P. Smith et al's No. 1 Hudson, 750 ft. out of SE cor. Blk. 15, Henry Parker Sur. ..... Heaving shale 3,700 ft.; abnd.
United North & South Oil Co.'s No. 1 McDonald, I.&G.N. Sur., Blk. 9, Sec. 5, 460 ft. S and 80 ft. E of NW cor. 35-acre tract ..... Sandy shale showing oil 3,577 ft.; cmtd. casing to test.

REFUGIO—REFUGIO COUNTY

E. M. Jones' No. 1-B Mitchell (D.D.), 250 ft. NW of SE line and 250 ft. SW of Mission River ..... Drlg. sandy shale 6,350 ft.
Larco Gas Co.'s No. 4 Strauch heirs, 150 ft. from N line and 150 ft. from W line, Lot 6, Blk. 2 .. No report.

SOUTH LOUISIANA FIELDS

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Petroleum Corp.'s No. 2 Heyd, 225 ft. out of NE cor. of Sec. 13-9s-7w ..... Cmtd. 9⅝-in. csg. 5,129 ft.
Shell Petroleum Corp.'s No. 1 Fontenot, Sec. 7-9s-6w, 450 ft. due E No. 2 Heyd ..... Sticky shale and lime 5,135 ft.

JENNINGS—ACADIA PARISH

Kathleen Oil Co.'s No. 1 Syndicate fee (W.O.), Sec. 46-9s-2w ..... Drlg. sand showing oil 3,912 ft.
Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Sand showing oil 8,682 ft.; setting screen.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 23 Watkins (W.O.), 2,495 ft. W. and 132 ft. N of SE cor., Sec. 13-12s-10w ..... T.D. 2,844 ft.; set whipstock 2,571 ft.; shut down.
The Texas Company's No. 9 State, 2,229 ft. N and 918 ft. E of SE cor. of Sec. 13-12s-10w in Twp. 21s-9w ... Building derrick.
The Texas Company's No. 10 State, 2,375 ft. N and 564 ft. E of SE cor. Sec. 13-12s-10w in Twp. 12s-9w ..... Location.
Union Sulphur Co.'s No. 1 Gulf land (Humble lease), 284 ft. N, 30 ft. W of SE cor., Sec. 11-12s-10w ..... Drlg. sand showing oil 5,615 ft.
Union Sulphur Co.'s No. 1 Gulf land (Pure Oil Co. lease), 1,420 ft. N, 400 ft. W of SE cor., Sec. 11-12s-10w ..... Drlg. gumbo 4,600 ft.

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 2 Martha Moss (W.O.), 120 ft. S and 56 ft. W of NE cor. SE NW of Sec. 8-10s-9w .. T.D. 6,529 ft.; rig up to deepen.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 1 Gray (D.D.), 125 ft. W and 85 ft. N of SE cor. NE SE of Sec. 33-10s-12w ..... Drlg. gumbo 2,342 ft.
Marrs McLean's No. 13 Gray, 464 ft. E and 460 ft. S of C of Sec. 30-10s-12w ..... Rig.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 732 fee (W.O.), 965 ft. N and 2,065 ft. W of cen. of Sec. 29-9s-10w ..... Pulling screen to deepen 3,252 ft.
Union Sulphur Co.'s No. 768 fee, 375 ft. N and 188 ft. W of SE cor. SW NW of Sec. 29-9s-10w ..... Drlg. gumbo 2,240 ft.
Union Sulphur Co.'s No. 769 fee, 295 ft. S. 918 ft. W of C of Sec. 29-9s-10w ..... Drlg. rock 1,500 ft.

PORT BARRE—ST. LANDRY PARISH

W. A. Aggers' No. 1 Cochran, 250 ft. S and 250 ft. E of NW cor. of Fractional Sec. 21-6s-5e ..... Spudded.
Gulf Refining Co.'s No. 1 Wilson & Cockran, Sec. 4-6s-5e, 100 ft. out of middle SW cor. 502-acre tract ... T.D. 3,197 ft.; sand 3,158-86 ft.; comp. flowing 800 bbls. daily.
Port Barre Oil Co.'s No. 1 Sibille, Sec. 20-6n-5e, 600 ft. S and 124 ft. E of NW cor. 30-acre tract ..... Drlg. gumbo 1,095 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

C. O. Farrington et al's No. 1 Jackson, Brookshire, S. F. Austin Sur. No. 10, 750 ft. NW of Empire Gas & Fuel Co.'s No. 1 Jackson and 250 ft. S of NW line ... Spudded.
Grant & Baker's No. 1 Chesley, W. C. White Sur., 150 ft. from NW line and 150 ft. from SW line of 26-acre tract (northeast of Raccoon Bend Field) ..... Derrick.
O'Hara Oil & Gas Co.'s No. 1 Neilous, J. C. Cummings Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.

Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek.. Drlg. shale 1,205 ft.

BRAZORIA COUNTY

W. D. Southerland's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 2, Andrew Robinson Sur. ..... Standing 1,514 ft.

The Texas Company's No. 2 Belcher, Harvey N. Little Sur., 1,728 ft. southeasterly from N cor. of S half of Sur., along NE line and thence 123 ft. at right angles ..... Sand 5,572 ft.; cmtd. 9⅝-in. csg 5,550 ft.; drld. plug; coring sand showing oil 5,585 ft.

United Oil Syndicate's No. 2 Levitt, John Peske Sur., 75 ft. NW of No. 1 ..... Location.

BURLESON COUNTY

Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,068 ft. N and 225 ft. W of SE cor. of tract..... Standing 2,210 ft.

M. O. & T. Corp.'s No. 1 Rigers ..... Shut down 2,050 ft.

FORT BEND COUNTY

O'Hara et al's No. 1 Brown, Pilant Lake, Wm. Barrett and Abner Harris Sur., 600 ft. out of SW cor. of Brown 600-acre tract ..... Shut down 1,027 ft.

Naylor & DeCosta's No. 1 Naylor, 6,350 ft. N 55 deg. E from SW cor. 653-acre tract in Christman Sur. ..... Cmtd. 20-in. csg. 140 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur., 280 ft. N Cobb & Rasmussen's No. 1 Dodd ..... Drlg. shale 1,318 ft.

Rianjo Oil Co.'s No. 3 Cuthrell, Patrick B. O'Connor Sur., 150 ft. S, 10 degrees E of No. 2 ..... Shut down 1,150 ft.

Stanolind Oil & Gas Co.'s No. 1 Mary Sullivan, A. Yeamens Sur., 998 ft. out of SE cor. of 712-acre tract.... Rig.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Abnd. 3,364 ft.

Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 deg. ..... Shut down 2,720 ft.

JACKSON COUNTY

Chicago Gulf Corp.'s No. 4 Druschell (W.O.) ..... Rig up to deepen.

Chicago Gulf Corp.'s No. 10 Druschell, Hayes Sur., 1,300 ft. NW of No. 3 ..... No report.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 900 ft. NW of Helmerich & Payne's No. 1 Flourney..... Reported sand showing oil 3,997 ft.; waiting csg.

JEFFERSON COUNTY

Brown et al's No. 1 M. O. Todd, 200 varas S and 58 varas E of NW cor. of Wm. Carr Sur. ..... Gumbo 850 ft.; shut down.

John I. Pipkin and Elam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 205-acre tract ..... Water sand 2,100 ft.; shut down.

Texas Gulf Sulphur Co.'s No. 4 Thomas, Fannett, Wm. H. Smith Sur., 1,500 ft. S and 350 ft. W of NE cor. tract ..... Abnd. sulphur test.

C. R. Tolliver et al's No. 1 Tolliver, Duches Sur., 3,500 ft. from W line and 1,500 ft. S of Pine Island Bayou.. No report.

Westbury Oil Co.'s No. 4 West, 450 ft. W and 4,210 ft. S of NE cor. of T. D. Yoakum Sur. ..... Shut down in gumbo 600 ft.

LIBERTY COUNTY

Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; shut down.

J. T. May et al's No. 1 Dunman, J. C. Martin League.. Location.

MATAGORDA COUNTY

United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye Townsite ..... Drlg. sand and lime 7,742 ft.

MONTGOMERY COUNTY

Herman Heep et al's No. 1 Cartwright, 2,851.6 ft. southerly along W line from NW cor. of John O. Davis Sur. and thence 450 ft. E from said line..... Drlg. gumbo 3,105 ft.

Pevehouse Oil Co.'s No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-acre tract and 2,226 ft. E of W line of H.&W. 1,870-acre tract ..... Drlg. sticky shale 3,634 ft.

NEWTON COUNTY

R. T. Briscoe et al's No. 1-A Joe Inman, 1,950 ft. E and 500 ft. N of SW cor. J. M. Scott Sur. ..... Shut down 1,795 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... T.D. 4,063 ft.; sidetracking shale and lime 3,642 ft.

Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1..... Shut down 2,275 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,162 ft.

T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Shut down 1,517 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd. ..... Shut down 4,627 ft.

J. C. Dixon's No. 1 Peck, 450 ft. S. 150 ft. E of NW cor. of S half of Sec. 24, Bonnie View Ranch Subd., Estaban Lopez Sur. ..... Cmtd. 12½-in. csg. 100 ft.; standing.

Humble Oil & Ref. Co.'s No. 2 O'Connor, John Keating Sur., 12,625 ft. N of S line at right angles and 8,158 ft. W of E line at right angles ..... Drlg. brown shale 2,145 ft.

SAN JACINTO COUNTY

E. P. Edwards' No. 1 J. R. Bennett, Cold Springs ..... Shut down 750 ft.

TRINITY COUNTY

John Deering's No. 1 J. B. Gibson ..... Drlg. 1,725 ft.

Mound Prairie Oil Co.'s No. 1 Cameron ..... Drlg. shale 3,606 ft.

Scientific Producers Co.'s No. 1 Thompson, I.&G.N. Sur. No. 47, 50 ft. out of NE cor. of H. K. Thompson 199-acre tract ..... Shut down 1,191 ft.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,258 ft.; cem. 6-in. casing 1,218 ft.; standing.

Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... Shut down 5,025 ft.

VICTORIA COUNTY

Bunte et al's No. 2 Keeran, Martin DeLeon Sur., 200 ft. E of No. 1 ..... Location.

T. B. Slick Estate's No. 2 McFaddin, J. Varian Sur., 3,500 ft. NW of No. 1 and 1,100 ft. NE at right angles to SW line of lease ..... Moving in.

The Texas Company's No. 4 McFaddin, 86 deg. E, 1,728½ ft. from NE cor. of Andrew J. Gray Sur. in John M. Rine Sur. ..... Spudded.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson's 71-acre tract ..... Shut down for repairs 2,090 ft.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 156-acre tract ..... No report.

SOUTH LOUISIANA

ASCENSION PARISH

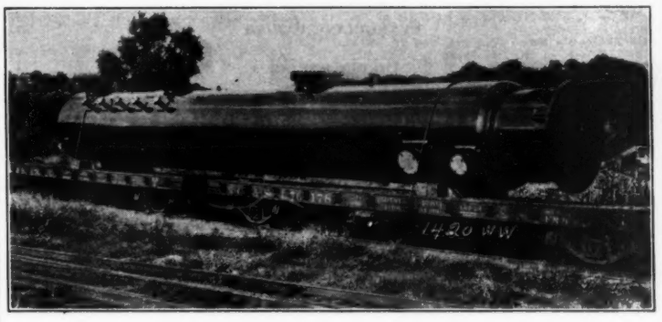
McElroy Pet. Co.'s No. 2 Lacey, 150 ft. S, 150 ft. W of NE cor. of Sec. 29-10s-4e ..... Shut down 4,515 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w..... Shut down 875 ft.

L. O. Davis' No. 1 Industrial, Sec. 29-9s-10w..... Standing 6,568 ft.

Hill Oil Co.'s No. 1 W. S. Vincent et al, 642 ft. W, 75 ft. N from SE cor., Sec. 25-10s-10w..... Shut down 3,270 ft.



High Pressure Fusion Welded Bubble Tower.

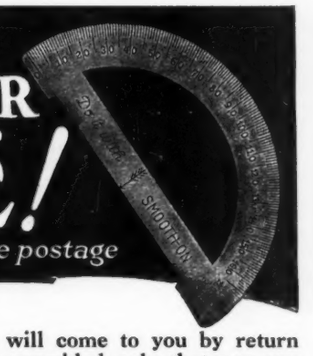
H-W-W "Hy Pressure" Welded Drums and Boilers conform to ASME CODE.

Welded Seams are X-RAYED. Drums are furnace annealed.

Integrity of Weld commends these vessels where requirements are exacting.

THE HEDGES-WALSH-WEIDNER CO.
CHATTANOOGA, TENN.
Mayo Bldg., Tulsa. 200 Madison Ave., New York

THIS USEFUL PROTRACTOR FREE! — and we pay the postage



THIS handy accurate tool will come to you by return mail and *absolutely free*, provided only that you use the request coupon, and tell us in a supplementary letter where you have used Smooth-On and with what success. The Smooth-On Handbook also will be sent unless you already have one, as your reference library is not complete without the valuable repair information this book contains.

Judicious use of Smooth-On is saving thousands of dollars for plant owners, and untold hours of hard dirty overtime work for the operating men. You overlook an opportunity if you do not avail yourself of its benefits.

SMOOTH-ON MFG. CO., Dept. 66,
570 Communipaw Ave., Jersey City, N. J.
Please send ☐ Protractor ☐ Smooth-On Handbook.
Name _____
Address _____
_____
3-10-32

Get SMOOTH-ON No. 1 in 1 or 5-lb. cans, or 25 or 100-lb. kegs from your nearest dealer, or, if necessary, from us.

Do it with SMOOTH-ON

Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w.....Shut down 3,650 ft.
Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w .....Rig.

CAMERON PARISH

Brownie-Babbette Oil Co.'s No. 1 R. A. Moore, 562 ft. W, 50 ft. S of NE cor. E half SE of Sec. 18-12s-12w..Rigging up.

EVANGELINE PARISH

Emile LeDeau's No. 1 Vidrine, 260 ft. W and 350 ft. S of NE cor. of Sec. 47-3s-2e .....Rig.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 28 Lake Peigneur, Sec. 58-12s-5e, 150 ft. W NW of No. 26 and 1,720 ft. SW No. 25 .....Sulphur test.
Warrick Oil Co.'s No. 1 Bernard, 912 ft. N and 150 ft. E of SW cor. Sec. 54-12s-7e .....Rig.

IBERVILLE PARISH

Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of C of Sec. 52-9s-11e .....Drlg. 1,875 ft.
Standard Oil Co.'s No. 2 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e.....Drlg. 4,852 ft.
Standard Oil Co.'s No. 7 Schwing, Bayou Blue, 1,359 ft. N and 1,856 ft. E of C of Sec. 74-9s-10w.....Drlg. 4,005 ft.

LA FOURCHE PARISH

Pop Oil Co.'s No. 1 Esponge Vizier, Sec. 26-21s-22e, 78 ft. N, 289 ft. E of The Texas Company No. 4 L.L.&E. .....Drlg. sandy shale 3,620 ft.
State Prod. Co.'s No. "D" W. H. Stark, 1,935 ft. S and 1,550 ft. W of NE cor. Sec. 72-15s-15e .....Sulphur test.
The Texas Company's No. 4 L.L.&E., Leesville, Sec. 26-21s-22e .....No report.

POINTE COUPEE PARISH

Grand Bay Oil & Gas Co.'s No. 1 Moniotte, 10,140 ft. S and 13,450 ft. E of NW cor. Twp. 5s-11 in Sec. 34....Shut down 310 ft.

TERREBONNE PARISH

Freeport Sulphur Co.'s No. 1 Wurzlow, 1,200 ft. N and 2,600 ft. W of SE cor. Sec. 8-22s-18e .....Rig.
La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor., Sec. 3-18s-16e .....Drlg. 5,085 ft.
The Texas Company's No. 5 State, Dog Lake, 2,270 ft. S and 450 ft. E of NW cor. of Sec. 5-22s-16e .....Derrick.
The Texas Company's No. 4 La.L.&E., Bay Junop.....Location.
The Texas Company's No. 5 State, Lake Pelto, 1,505 ft. N and 1,539 ft. W of SE cor. of Sec. 8-23s-18e.....Drlg. gyp and shale 2,035 ft.
The Texas Company's No. 10 State, Lake Barre .....Location.
The Texas Company's No. 12 State, Lake Barre.....Drlg. gumbo 2,406 ft.
The Texas Company's No. 14 State, Lake Barre.....Location.

VERMILLION PARISH

Pure Oil Co.'s No. 2 Alliance Trust Co. Gueydan, 1,875 ft. E and 950 ft. S of NW cor. of Sec. 34-11-1w T.D. 2,757 ft.; no report.

WEST FELICIANA PARISH

Putnam Syndicate's No. 3 Como Plantation, Sec. 51-1s-4w. Shut down 2,449 ft.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 29)

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 2 Sandidge, Sec. 11-20n-4e, 656 ft. S, 1,332 ft. W, NE cor, NW .....S.D.; high wtr.; 2,132 ft.

NATCHITOCHES PARISH

Dr. H. S. Gerson's No. 1 Smith, Sec. 11-10-8, 2,000 ft. N, NE cor. of irregular Sec. 10, in Sec. 11 .....S.D. 585 ft.
Dr. H. S. Gerson's No. 2 Smith, Sec. 11-10-8, 200 ft. N and 300 ft. W of NE cor. .....Location.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10 .S.D. 1,518 ft.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW .....S.D. 178 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 .....S.D. 1,380 ft.

OUACHITA PARISH

J. J. Potts, agent's No. 1 Robinson-Reed, Sec. 11-18-4e, 1,745 ft. N, 780 ft. E, SW cor, Sec. .....Completed 2,000,000 ft. gas at 2,240 ft.
Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE .....Drlg. chalk 2,675 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 .....Spudded and S.D. 50 ft.

RICHLAND PARISH

National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e .....S.D. 2,515 ft.

SABINE PARISH

Baird & Hunter's No. 1 Petty, Sec. 11-7-11 .....Rigging up.
Baird & Stone's No. 1 McNeely, Sec. 14-7-11 .....Testing 2,493 ft.
Beene et al's No. 1 Esernack, Sec. 2-7-13, 1,070 ft. S, 250 ft. W, NE cor. .....S.D. 1,650 ft.
Baird & Stone's No. 1 Quayhagien, Sec. 11-7-11 .....Rigging up.
Coates Pet. Co.'s No. 1-B S. S. Martinez, Sec. 3-7-13, 330 ft. S and W, NE cor. SE NE .....Location.
W. M. Coates' No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13 .....Derrick.
W. M. Coates et al's No. 1 Mansfield Hardwood Lbr. Co., Sec. 36-8-13, SW cor. SE SE .....Setting 2-in. tubing with packer 2,403 ft.
B. A. Ferrell's No. 1 Haley, Sec. 6-7-12, 300 ft. S and E, NW cor. NW SW .....Location.
Frank Foster, Inc.'s No. 1 Stephens, Sec. 20-9-11, 330 ft. S and W, NE cor. NW NW .....Drlg. 2,950 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor, NW NW, Sec. 10-8-13 .....Reaming 4,067 ft; T.D. 4,788 ft.
T. M. LeGrand's No. 1 Peterson, 330 ft. N and E of C, Sec. 34-7-13 .....S.D. 2,243 ft.
Geo. LeGrand's No. 1 McGough, Sec. 3-8-10 .....Derrick.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13 ..S.D. 2,875 ft.
E. F. Neely's No. 1 Cobb & Alford, Sec. 14-7-11, 200 ft. S, 100 ft. E, NW cor. NE SW .....W.O.S.R. 2,565 ft.
Palmer & Smitherman's No. 1 La. Long Leaf Lbr. Co., Sec. 12-7-11, 330 ft. S and E, NW cor. NE SE .....Location.
Palmer & Smitherman's No. 2 La. Long Leaf Lbr. Co., 330 ft. S and W, NE cor. NE SE, Sec. 12-7-11 .....Location.
Palmer & Smitherman's No. 3 La. Long Leaf Lbr. Co., 330 ft. S and W, NE cor. NE SW, Sec. 12-7-11 .....Location.
H. W. Perritt's No. 1 Brown Lbr. Co., Sec. 6-7-10, 330 ft. N and E, SW cor. SW SE .....Drlg. 400 ft.
Service Drlg. & Royalties Corp.'s No. 1-B Gardner, Sec. 7-7-10, 330 ft. S and E, NW cor. SW NW .....Dry and abd. 2,812 ft.
H. R. Smith et al's No. 1 La. Long Leaf Lbr. Co., Sec. 12-7-11, 330 ft. S and W, NE cor. NW SW .....Location.
H. R. Smith et al's No. 2 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. NW SW, Sec. 12-7-11 .....Location.
J. E. Smitherman's No. 1 Smith, Sec. 7-7-10, 330 ft. S and E, NW cor. NW SW .....Swabbing 2,811 ft.
Southland Drlg. Co.'s No. 1 Frank Martinez, 330 ft. S and W, NE cor. NW, Sec. 11-7-13 .....Testing 2,500 ft.
Southland Drlg. Co.'s No. 2 F. Martinez, Sec. 11-7-13, 330 ft. S and E, NW cor. NE NW .....Derrick pattern.
Southland Drlg. Co.'s No. 1 Gilbert Martinez, Sec. 2-7-13, 330 ft. N and W, SE cor. SW SW .....Derrick pattern.
Southland Drlg. Co.'s No. 1 C. E. Patterson, Sec. 2-7-13, 330 ft. N and E, SW cor. Sec. .....Drlg. 2,360 ft.
The Texas Co.'s No. 1-B Grauque, Sec. 10-7-13, 330 ft. S and W, NE cor. SE .....Set 6¼-in. 2,115 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 .....S.D. 1,200 ft.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-13 .....S.D. 3,545 ft.

ARKANSAS

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 .....S.D.; W.O. 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-3 .....S.D. 1,350 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12 .....Rigged up and S.D.

CLEBURNE COUNTY

(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 .....S.D. 3,740 ft.

DALLAS COUNTY

J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. SE, Sec. 11-9-15 .....Coring 2,514 ft.
Zepp O. & G. Co.'s No. 3 Hillman, Sec. 20-10-13, 180 ft. N, 450 ft. E, SW cor. NW NE .....Location.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW .....S.D. 1,890 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 .....S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7 .....S.D. 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-19 .....Location.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 .....S.D.; W.O. 3,570 ft

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27 .....S.D. 1,955 ft.

OUACHITA COUNTY

Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17..S.D. 2,011 ft.
McLean et al's No. 1 L. D. Neely, Sec. 23-15-16, 200 ft. N and W, SE cor. NE SW .....Rigging up.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 .....T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24 .....S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23 .....S.D. 1,812 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w .....Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 .....S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 .....S.D. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 Grimble, Sec. 34-8-22, S½ SW ..S.D. 950 ft.

ST. FRANCIS COUNTY

Walmer Oil Co.'s No. 1 F. M. White, Sec. 1-4n-2e, SW cor. NW .....Rigging up.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16 .....T.A. 2,134 ft.
Drillers Oil & Dev. Co.'s No. 1 Haynie, Sec. 1-17-16, 200 ft. S, 300 ft. E, NW cor. NW SE .....Location.
H. H. Heims' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 .....Drlg. sandy lime 2,450 ft.
L. M. Hill et al's No. 1 J. W. Barnes, Sec. 21-19-16, NE cor. Sec. .....Derrick.
Sunby et al's No. 2 Perdue, Sec. 33-16-14, 75 ft. S, 150 ft. E, NW cor. Sec. .....W.O. 3,247 ft.
Wilson & Chapman's No. 1 King, Sec. 3-18-13, 330 ft. N and E, SW cor. NE NE .....Derrick.
Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE, Sec. 3-18-13 .....Derrick.
Wilson & Chapman's No. 1 K. D. Parker, Sec. 3-18-13, 330 ft. N and E, SW cor. S½ NE SE .....Recmtng. 10-in. 250 ft; T.D. 2,805 ft.

WASHINGTON COUNTY

(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 .....S.D. for funds 1,795 ft.

YELL COUNTY

(Cable tools)

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-7-21 .....S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. .....S.D. 4,505 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. .....S.D. 1,380 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. .....S.D. 3,000 ft.

CASS COUNTY

J. F. Morrisey's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. .....S.D. 3,670 ft.
Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 38-ac. tr., Albert H. Lattimer Sur. .....S.D. 2,860 ft.
William S. King's No. 1 D. W. McDonald, Martha Ingram Sur., 688 ft. W, 1,343 ft. N, SE cor. Lot 5, McDonald 61-ac. tr. .....Reaming to bottom 2,365 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. .....S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. .....S.D. 2,280 ft.
Olds & King's No. 2 Anthony, John C. Byers Sur. .....S.D. 1,750 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. .....S.D. 955 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. .....S.D. 4,195 ft.
Ryan Cons. Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. .....Derrick.

MARION COUNTY

Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. .....S.D. 2,380 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. .....Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. .....S.D. 2,394
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in James Hanks Sur. .....S.D. 3,055 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ....S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. ....S.D. 2,280 ft.

SHELBY COUNTY

Carter & O'Brien Bros.' No. 1 Frost-Johnson Lbr. Co., 200 ft. S, 150 ft. W, NE cor. 168-ac. tr., Aaron Castleberry Sur. .....Location.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. .. Drlg. 2,900 ft.
Harry Elliott's No. 1 Pickering Lbr. Co., 1,000 ft. N, 150 ft. E, SW cor. 361-ac. tr., G. H. Patterson Sur. ..Tested S.W; S.O. 1,508 ft.

K. H. Francis' No. 1 John Mims, Mary Smith Sur. .....S.D. 3,334 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. .....S.D. 2,600 ft.
Henry Mauilding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. .....S.D. 3,246 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. .....S.D. high wtr. 3,393 ft.
Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. .....Set 8-in. 822 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. .....S.D. 20 ft.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. .....Dry and abd. 3,475 ft.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 26)

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w .....C.O. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .....S.D. 3,420 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 23-9-17w .....Rig.
Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w .....Drlg. 2,740 ft.; show oil 2,459-67 ft.; S.D. 2,757 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 .....S.D. 1,265 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-1E..T.D. 4,720 ft.; to cement.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 .....S.D. 1,720 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 7-7-10..T.D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 36-6s-9 .....T.D. 740 ft.; plugged back to 450 ft.
Whalem et al's No. 1 Mason, NW SE SW Sec. 24-6s-9....S.D. 935 ft.

CARTER COUNTY

Landy's No. 1 Spraggins, C NE NW SW Sec. 8-1s-2w....S.D. 2,495 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE Sec. 18-4s-8w.....Location.

MARSHALL COUNTY

Starrett et al's No. 1 Henry, NE NW, Sec. 22-7s-6 .....Drlg. 260 ft.
F. H. E. Oil Co.'s No. 1 Beard, NW SE Sec. 3-8s-6.....S.D. 820 ft.
Everett et al's No. 1 Agres, SE NE Sec. 14-7s-6 .....S.D. 1,170 ft.
Newman et al's No. 1 Henry, NW cor. Sec. 22-7s-6 .....Rig.

McCURTAIN COUNTY

Prassell et al's No. 1 Wagoner, SE NE Sec. 5-8s-27 .....S.D. 250 ft.
Stampfs et al's No. 1 Harris, SW NW SW Sec. 14-9s-25..S.D. 2,731 ft.
Stewart's No. 1 Patterson, C SE SE Sec. 7-6s-24 .....Drlg. 1,300 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18 .....Fishing 840 ft.

STEPHENS COUNTY

Dameron & Brock's No. 1 Dameron, SE SW NE Sec. 11-3s-6w .....2,000,000 ft. gas 360-65 ft; comp.
Brown's No. 1 Hightower, SW SE NE Sec. 18-3s-5w.....Sand 990-1,004 ft.; S.O.; S.D.
George's No. 1 Ryan, NW SW NE Sec. 31-3-15 .....S.D. 510 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 29)

Ohio Oil Co.'s No. 9 Bowman-Hicks, Sec. 35-8-12, 250 ft. N, 330 ft. E, SW cor. NW SE .....Rigging up.
Ohio Oil Co.'s No. 14 Bowman-Hicks, Sec. 3-7-12, 330 ft. S and W, NE cor. NW SW .....Dry and abd. 2,700 ft.
Sabine Prod. Co.'s No. 2 Pearce, Sec. 10-7-11, 330 ft. S and E, NW cor. SE NW .....Derrick.
Smith et al's No. 1 Hale, Sec. 1-7-13, 330 ft. S and W, NE cor. NW SE .....Drlg. cable tools 2,516 ft.
Stovall Drlg. Co.'s No. 3 Nulton, 330 ft. N and W, SE cor. SE NE, Sec. 2-7-13 .....Location.

UNION PARISH

Southern Carbon Co.'s No. 58 fee, Sec. 17-20-4e, 1,557 ft. W, 1,220 ft. S, NE cor. Sec. .....Location.

ARKANSAS

UNION COUNTY—EL DORADO

Ark. O. & G. Co.'s No. 4 Anderson, Sec. 31-17-15, 2,005 ft. S, 150 ft. W, NE cor. NW SW .....Testing 2,190 ft.
Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 .....S.D.; high wtr. 7,255 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 .....S.D. 2,608 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 .....T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 .....Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13, 330 ft. S and W, NE cor. SE NW .....T.A. 3,545 ft.

EAST TEXAS

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .....S.D. 3,194 ft.
Nat. Gas Prod. Co.'s No. 3 Mays, 158 ft. S, 443 ft. W, NE cor. 42.5-ac. tr., Jane Thorpe Sur. .....S.D. 3,038 ft; high wtr.
United Prod. Co.'s No. 12 Werner, 1,959 ft. W, 556 ft. N, SE cor. 66.6-ac. tr., B. C. Jordan Sur. .....Derrick abd.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. ...Location.

MISSISSIPPI

HINDS COUNTY

James Alexander, tr.'s No. 1 Pullen, Sec. 26-6n-1e, C NW NE .....Derrick.
Belhaven College's No. 1 fee, Sec. 35-6n-1e, 360 ft. E, 210 ft. S, NW cor. SE NW .....Derrick.
Ferguson-Fuller et al's No. 1 Cruse, Sec. 34-6n-1e, 420 ft. E, 170 ft. N, SW cor. NW .....Set 10-in. 758 ft; drlg. 1,830 ft.
Love Pet. Co.'s No. 1 Interior Lbr. Co., Sec. 2-5n-1e, 90 ft. W, 270 ft. N, SE cor. SW .....S.D. 1,600 ft.
McGuire et al's No. 1 Spring Lake, Sec. 11-5n-1e, 250 ft. N, 450 ft. W, from center of Sec. .....Derrick pattern.

RANKIN COUNTY

Cummins & Montgomery's No. 1 Ivey, Sec. 12-5n-1e, NE Lot 10, Blk. D, E. Jackson Pl., First Addn. ...Derrick.
Meredith et al's No. 1 Strowder, Sec. 12-5n-1e, SE cor. SW NE .....Drlg. 1,295 ft.

WILDCAT OPERATIONS IN MISSISSIPPI

HINDS COUNTY

Company, farm and location—	Remarks:
Atkins et al's No. 1 Crane Lawrence, Sec. 23-6n-1e, 300 ft. E, 132 ft. N, SW cor. NE SE	Derrick.
Miss.-Minn. Oil Co.'s No. 1 Edwards Land Co., Sec. 23-6n-4w, 1,200 ft. N and E from center of Sec.	Began Feb. 22; drlg. 110 ft.
Southern Pet. Co.'s No. 1 Wilton (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e	Arranging to set 4½-in. 2,498 ft.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 .....T.A. 3,408 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec. .....Rigging up.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE, Sec. 25-6n-11e .....S.D. 840 ft.

NOXUBEE COUNTY

Thompson & Donohoue's No. 1 Donohue, Sec. 25-16n-17e..S.D. 1,735 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-2e .....Waiting on csg. 2,428 ft.
James Alexander, tr.'s No. 1 Ridgeway-McGehee, Sec. 1-5n-1e, 200 ft. N, 320 ft. W, SE cor. NE SE .....Set 10-in. 100 ft; drlg. 500 ft.
Baker et al's No. 1 Rankinside Dev. Co., Sec. 6-5n-2e, 200 ft. N, 200 ft. E, SW cor. NW SW .....Rigging up.
Henslee et al's No. 1 Tanner, Sec. 14-5n-1e, 400 ft. S, 200 ft. E, NW cor. NE NE .....Set 6⅝-in. 2,395 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e. Derrick.
Muse & Muse's No. 1 Cotton, Sec. 14-5n-1e, 1,320 ft. S, 200 ft. E, NW cor. NE NW .....Set 6⅝-in. 2,406 ft.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9 .....Derrick.

SHARKEY COUNTY

United Gas Public Service Co.'s No. 1 Lenhart, Sec. 14-14n-6w, 660 ft. N of C of S line of Sec. .....S.D. repairing rig 750 ft.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 .....S.D. 2,607 ft.

LA.-ARK. FIELDS

(Continued from Page 29)

ing in lime at 2,465 feet. The drill bit in this test has just passed out of 75 feet of hard iron pyrites. Another test that is nearing the pay horizon and being closely followed, is Frank Foster's No. 1 Stephens, Section 20-9-11, in the northern part of Sabine Parish. The test is in the vicinity of the Langbridge Oil Co.'s No. 1 Stephens, a small pumper completed 5½ miles from the Pleasant Hill Field last October.

Arkansas Wildcats

The few wildcats that are active in Arkansas are making slow progress. In Dallas County, J. H. James, trustee, has resumed operations on his No. 1 Fordyce Lumber Co., Section 11-9-15, and is coring at 2,514 feet. The test has been shut down at this depth since May of last year. In the semiwildcat territory of Union County, the Drillers Oil & Development Co. has temporarily abandoned its No. 1 Pickering, Section 1-17-16, at 2,134 feet. This test reported about 5 feet of oil sand from 2,129-34 feet and set 6⅝-inch casing at that depth for a test. The well showed a small amount of oil and was deepened to 2,162 feet, encountering salt water. It was then plugged back to 2,134 feet and a test resulted in 100 feet of fluid in the hole, 50 per cent of which was salt water. H. H. Helms' No. 1 Berry Davis, Section 31-16-14, located on a 1,000-acre block near the old producing fields, is drilling in sandy lime at 2,450 feet. In the Urbana district, Wilson & Chapman are recementing 10-inch surface casing at 250 feet in their No. 1 K. D. Parker, Section 3-18-13. The total depth of the hole is 2,805 feet with the producing horizon around the 3,600-foot level.

Mississippi Test

In Hinds County, Mississippi, the Mississippi-Minnesota Oil Co. has spudded in on its No. 1 Edwards Land Co., Section 23-6n-4w. The test is a rank wildcat, located in the western part of the county near the Warren County line. In Jasper County, the Bay Springs Petroleum Co.'s No. 1 Keys, Section 21-2-10, has been temporarily abandoned at 3,408 feet, the contract on the test calling for 3,400 feet. The United Gas Public Service Co.'s No. 1 Lenhart, Section 14-14n-6w, Sharkey County, is shut down for rig repairs at 750 feet. This wildcat is located on a 60,000-acre block in Sharkey, Humphreys and Washington Counties.

MICHIGAN FIELDS

(Continued from Page 34)

tion 9, Lee Township, Midland County, which was reported dry last month at a total depth of 3,679 feet, the Dundee being topped at 3,594 feet and drilled 85 feet in without striking pay sand. This test represents the farthest east extension in the field, with the exception of No. 1 Simms, NE SE and E half NW SE, Section 4, Mount Haley Township, Midland County, which is shut down at a depth of 1,050 feet. It is owned by J. M. Markle, trustee, and is considerably south of the field as well as east.

Fred Sias is reported drilling on the Merrifield-Nelson farm, NE NE SW, Section 17, Jerome Township, Midland County.

Walter L. McClanahan, Inc. is drilling No. 2 well, 330 feet from the north and west lines of the Henry W. Morrison farm, NW SW SE, Section 10, Greendale Township, Midland County; location for No. 3 well, 990 feet from the south and west lines, same farm, also have location for No. 4, 330 feet from the south and east lines of the same farm.

Michigan Oil & Gas Co. has a drilling permit for a test on the Ranor farm, SE NE SE, Section 4, also in Greendale Township, Midland County.

New Permits

Haskell, Conover and others are drilling their No. 1-A E. L. Rhemenschnider farm, NW SW SE, Section 14, Greendale Township, Midland County, and located 330 feet from the south and west lines of the farm. The Pure Oil Co. secured drilling permits for four new wells, No. 2 well, 330 feet from the north line and 990 feet from the west line of the Charles Mullett and others farm, NE NW NE, Section 15; No. 3 well, 330 feet from the north line and 990 feet from the east line of the same farm; No. 2 well, 990 feet from the north and west lines of the Emma O. Reed farm, SW NE SE, Section 10, and No. 3 well, 990 feet from the north and east lines of the same farm.

In Clare County, north of Mount Pleasant, James A. McKay's No. 9 on his own farm, SW SE NE, Section 6, Grant Township, 450 feet from the south line and 1,000 feet from the east line of the farm, was drilled into the Marshall gas sand but failed to find any pay at a total depth of 1,483 feet.

Pure Oil Co.'s No. 6 Sias farm, NW NW SW, Section 8, Greendale Township, Midland County, is reported at about 125 bbls. daily.

Mammoth Oil Co.'s No. 1 Bothwell farm, Section 15, Hatton Township, Clare County, is shut down at 4,070 feet.

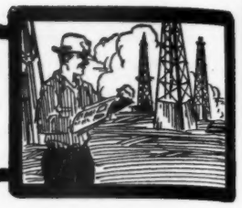
Muskegon Field

The Muskegon Development Co.'s No. 2 Hartman, Section 9, Muskegon Township, Muskegon County, has been completed as a commercial dry gas producer in the Monroe formation which lies below the Dundee formation. Its new flow was gauged at 120,000 feet a day at a total depth of 2,254 feet after deepening from the original Traverse and Dundee well.

Western Michigan wildcats in Muskegon, Oceana and Newaygo Counties are showing more activity. Buchanan and Frye's No. 1 Fruitvale, which flowed about 10 bbls. while being cleaned out in the upper Traverse, will be plugged back to the Berea. Two old wildcats on the west side of Newaygo County, the Hesperia-Jones No. 1 and the Oceana-Stitt No. 1, are to be drilled to the Dundee or deeper. Edward Duvall has driven pipe in No. 1 Oscar Weirich, Section 31, Elbridge Township, Oceana County.

CLASSIFIED WANTS

Read by Oil Men Everywhere



RATES

The rates for Classified Advertisements are 35 cents a line for the first insertion and 25 cents a line for each additional inserton. Six words usually constitute a line. The following table will enable you to figure the cost of your advertisement:

	1 time	2 times	3 times	4 times
3 lines	1.05	1.80	2.55	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

Compute white space at the above rates.

For rates on Classified DISPLAY see opposite column.

Mail your Classified Advertisement to

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

FOR SALE—EQUIPMENT

FOR SALE—New Braden Type B-15 heavy duty winch. Suitable for use with truck or tractor as rod and tubing machine. Address Box E-930, The Oil and Gas Journal, Tulsa, Okla.

200 AMP. General Electric Arc Welder; portable; 220 V. 3 ph. 60 cy. Complete. Like new. $350. 7x6 Ingersoll-Rand Type ER-1 Air Compressor. Like new. $225. 8x6 Ingersoll-Rand Type ER-1 Air Compressor. Like new. $250. 36"x18' Fifield Screw Cutting Lathe. $650. Also large stock of lathes, shapers, pipe machines, bolt threaders, etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West Second St., Cincinnati, Ohio.

20 Waukesha engines, heavy-duty, 4-cyl., 120 H.P. Cheap.
MERTES MACHINERY CO.
1622 S. First St., Milwaukee, Wis.

FOR SALE—22,000 feet of 16"O.D.x ⅞" pipe in 40' lengths, P.E. Used one year as surface water line. The Sawhill Mfg. Co., 418 Oliver Bldg., Pittsburgh, Pa.

FOR QUICK SALE—2-Used, completely overhauled, 25 H.P. 4-Cycle Superior Gas Engines with Reversible Clutches and Fly Wheels. A-1 condition. Price f.o.b. Wichita, $250.00 each. Bridgeport Machine Company, Box No. 17, Wichita, Kansas.

BARBER-GREENE Ditchers, three Model 44-C, one 19-inch boom Pipe Line Special, new; two 12-inch booms; ten 2-ton, one 5-ton Kingham pipe trailers. Address Box E-880, The Oil and Gas Journal, Tulsa, Okla.

FOR QUICK SALE—Secured through foreclosure, 1 complete 100 H.P. 4-Cylinder Wright Reliable Drilling Engine. Drilled 2 shallow wells. Now completely reconditioned in our own shops. Guaranteed to be A-1. Priced right to sell. F.o.b. Wichita, $750.00. Bridgeport Machine Company, Box No. 17, Wichita, Kansas.

FOSTER WHEELER

Complete latest type distillation unit for crude or lubricating oil 2,500-bbl. capacity or better. Used only six months.

CONTINUOUS TREATING PLANT
1,000-bbl. capacity, never used.
For information and prices write

BROWN-STRAUSS CORPORATION
P. O. Box 1109 L. D. Phone 172
Kansas City, Missouri.

FOR SALE—EQUIPMENT

LATE MODEL diamond core drill, also light rotary. Address Box E-973, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE, horizontal field balance (Horizontal Magnetometer) made by Askania Company, at very low price; practically new. P. O. Box 305, Fort Worth, Texas.

FOR SALE—All equipment from two dismantled Dubbs Cracking Plants, including two Dow surge pumps with less than 18 months' service, Worthington duplex steam pumps, Leeds & Northrup indicating and recording pyrometers, Key & Ohiolock headers. Tagliabue pressure controllers and variety of forged and cast steel fittings. Material in first-class condition and subject to inspection. Address Box E-842, The Oil and Gas Journal, Tulsa, Okla.

EQUIPMENT WANTED

TO BUY—Used Dopps steam jacketed kettles 750, 1,000 and 1,500-gallon capacity. Address Box E-991, The Oil and Gas Journal, Tulsa, Okla.

WANTED

To buy Anvil Block and a few other parts of a 1,500-lb. ERIE Steam Hammer. State price, location, etc.

JONES-EVERETT MACHINE CO.

PAMPA, TEXAS.

BUSINESS OPPORTUNITIES

WITH $10,000 CAPITAL—Believe can make a profit of $100,000 in six months' time trading in commodities. Time is here now. Years of experience. GREGG SNYDER, 25 Broadway, New York.

OIL located before drilling. Geophysical method. Topodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

UTILITIES WANTED

We are in the market for utilities both gas and electric. Send all details.

Donovan Construction Co.,
Builders Exchange Bldg.,
St. Paul, Minn.

PETROLEUM PRODUCTS broker with excellent clientele wishes to communicate with refiners, marketers and compounders of Mid-Continent paraffin base and Pennsylvania lubricating oils regarding Pacific Coast distribution. Address C. Williams, 2519 Washington Blvd., Ocean Park, Calif.

OIL PAYMENTS

Have $5,000-$10,000—$30,000 and $40,000 oil payments, payable out of ¼ of oil, some out of ½ of oil, double your money in 12 months, no brokers. East Texas Fuel Oil Co., 212 Forman Bldg., Longview, Texas.

$1,000.00 A MONTH

I have men right now making $1,000 a Month selling excellent close-in leases to good East Texas wildcat wells. I want a good man in every city. I furnish maps and data. Times were never better to reap quick oil money in East Texas. Prices right for you to make yours. Am Building up the largest oil lease sales force in America. Don't write unless you are a 100-point man.
W. J. DOBBS
915 Tower Petroleum Bldg., Dallas, Tex.

BUSINESS OPPORTUNITIES

REFINERY in Oklahoma City Field, small amount of cash will handle, a mint for someone. 305 Local Bldg., Oklahoma City.

WACO OIL EXCHANGE—Recognized headquarters for the Falls and McLennan County fields. Leases, royalties and drilling contracts. 121 N. 6th Street, Waco, Texas.

WANTED, someone to develop large block of Arkansas acreage. Have complete geological survey and maps. Address Box E-980, The Oil and Gas Journal, Tulsa, Okla.

LAND COMPANY with holdings Western states offers unusual royalty bargains. Sample—$25 buys deed oil royalty interest 6 tracts, 1,080 acres, Colo., Wyo., Mont. Associated Stockholders, Inc., Linden Hills, Minneapolis, Minn.

FOR SALE

FUEL OIL, crude oil, gasoline, distillate, tank car lots, shipped to any point. Get our prices. East Texas Fuel Oil Co., 208 Isham Bldg., Longview, Texas.

SITUATIONS WANTED

MANAGER AND SUPERINTENDENT
Graduate engineer, 12 years oil field experience with major and independent companies, in geological, scouting, land and leasing, drilling and production departments. Thoroughly experienced oil field manager with exceptional reference. Will accept position in any of above departments or in charge of operations or developments. Write Box E-972, The Oil and Gas Journal, Tulsa, Okla.

LAND AND LEASE MAN
College graduate, age 32, several years oil and gas experience, checking and buying leases and producing properties. Excellent references. Write Box 971, The Oil and Gas Journal, Tulsa, Okla.

WANTED POSITION, Charge of purchases and stores dept. with oil or manufacturing firm. Capable handling both departments in one unit. Eighteen years' experience. Address Box E-982, The Oil and Gas Journal, Tulsa, Okla.

REFINERY SALES ENGINEER—now employed desires change. Well acquainted in Mid-Continent and Gulf Coast fields. Address Box E-983, The Oil and Gas Journal, Tulsa, Okla.

YOUNG COLLEGE man, 7 years' experience in foreign oil field, thorough knowledge of field material, convincing in conversation and correspondence, desires position in purchasing department of producing company anywhere. Excellent references. Address Box E-995, The Oil and Gas Journal, Tulsa, Okla.

GEOLOGIST—12 years with reputable companies in southern U. S. and 3 Latin American countries. Open for part or full time assignments or exploration contract. Investigation invited. Address Box E-992, The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN with 10 years' experience in sales promotion work (domestic and foreign) is seeking new connection with company manufacturing oil field equipment or specialty. Now employed by largest manufacturer in business, services available April. Best references. Address Box E-994, The Oil and Gas Journal, Tulsa, Okla.

THE SERVICES of an experienced MATERIAL SUPERINTENDENT are available. Young single man; broad knowledge of material control and warehouse problems; forceful correspondent; 5 years' experience with a major company in South America; excellent record and references. Address Box E-993, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

WANTED—Salesmen, High class proposition big proven area East Texas. Monthly dividends paid from producing properties. Penn Oil Corporation, 706-12 Herskowitz Bldg., Oklahoma City, Okla.

WANTED—Men with cars to sell Pumping Jacks, etc., on commission. Man each for Ark., La., Ky., Mont., Wyo., Cal., Mich., Okla., Kans., Mexico, N. Mex., three in Tex. References. Box 88, Tulsa.

CLASSIFIED DISPLAY RATES

The rate for Classified Display Advertising set in similar style to this Ad or in two Column style is as follows for each insertion:

1 inch	1 time	$5.00
1 inch	13 times	4.50
1 inch	26 times	4.00
1 inch	52 times	3.50

Rates for Classified without display shown on opposite column.

One point borders and ten point capitals are allowed, larger type not accepted.

Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL

TULSA OKLAHOMA

ROYALTIES PRODUCTION

1,800 OKLAHOMA County royalty buyers' names and addresses compiled from court house records. Price $5.00. Clyde Kelly, 608 Perrine Bldg., Oklahoma City, Okla.

Chester Imes
High Class Service to Dealers in Producing Oil Royalties.
Petroleum Bldg.
Oklahoma City, Okla.
Bell System Teletype
OKCY—8

UNUSUAL OPPORTUNITIES FOR ROYALTY INVESTORS AND DISTRIBUTORS

THE MERCURY COMPANY
Philtower Building, Tulsa, Oklahoma

MONTHLY INCOME-paying Royalties under Oklahoma City and Seminole Wilcox Sand wells offered. W. E. Cook, 342 Court Arcade, Tulsa, Oklahoma.

WILL SELL to the highest cash bid, this valuable landowner's Royalty. ⅛ of ⅛ of the landowner's full royalty 160 acres, Northeast ¼, Section 12, Block A-46, public school land, Andrews County, Texas. Production three sides. Box 513, Hernover, N. H.

JAMES B. McANALLY

Speculative and Investment Royalties

Hunt Building, Tulsa, Okla.

Service to dealers, Oklahoma, Kansas and East Texas.

ROYALTIES in the territory of coming big development in Kansas, Stafford, Barton, Ellsworth, Kingman and Stevens Counties, core drilled. Also producing royalties. Special service to brokers. Send for list. James R. Haynes, Grantville, Kans.

CLASSIFIED WANTS

ROYALTIES—PRODUCTION

For INCOME AND SPECULATIVE Oil Royalties for Investment, write SPENCER ROYALTIES CO. Thompson Bldg., Tulsa, Okla.

LEASES—PRODUCTION

VALUES ARE DEFLATED

Are you interested in oil and gas properties that meet your requirements and can pass inspection? Principals who are in the market, by stating specifications, can receive expert guidance and valuable information without obligation.
A. D. LAMM, Engineer
411 S. Elwood Ave. Tulsa, Okla.

TEXAS PANHANDLE Gas Production and Royalties is my Hobby—get my prices. Wire or write. E. B. Reeves, Box 13, Alanreed, Gray County, Texas.

HOT EAST TEXAS Woodbine Wildcat just starting 50 to 1 bet few weeks. E. Croft, Proctor, Texas.

LARGE BLOCK leases located at tidewater, good geology by U.S.G.S., State Geology, also competent geologists; held under lease for 30 years, now available; Woodbine sand, petroleum gas nearby; very similar Mexia Field. Act quickly. Geology and everything surrounding it perfect. Extremely unusual proposition. P. O. Box 305, Fort Worth, Tex.

320 ACRES Greasewood field. $3.00 rental. John Ittner, 432 Bannock, Denver, Colo.

MONEY RAISING

JAMES E. MILLER CO. will co-operate with responsible firms or parties seeking aid in financing projects of higher order. 207½ East Third Street, Tulsa, Okla.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, Pa., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

MONEY RAISING

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City

CAPITAL SECURED
Corporations Organized and Financed
Federal Registrar, 341 Fifth Ave., New York.

MONEY RAISING

Inquiries solicited from corporations interested in raising capital through marketing corporate securities.
THE BROOKWORTH CO., INC.,
110 East 42d St., New York.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

RANCHES AND FARM LANDS

RANCH land in Texas and New Mexico, 40 acres to 400,000 acres, improved or unimproved, $2 per acre up; cash, terms or trade for business property, stocks or bonds. Amos Poe, Andrews Building, Dallas, Tex.

100 TO 10,000 acres improved in fertile southeast Missouri. H. H. Blackledge, Diehlstadt, Mo.

INCORPORATIONS

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form.
Evidence of Conception
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER, ALLWINE & ROMMEL
Suite 418-815, 15th St., N.W.,
Washington, D. C.

MAILING LISTS

LIVE MAILNG LISTS

Stockholders' lists of Elliott, Joiner and others in oil royalties, leases and mining. Flory, Worth Bldg., Fort Worth.

Real Bargains in Used Material

1—Braden Sectional Steel Bldg., 16'x26'x10'_$	225.00
1—90 H.P. Twin Cylinder Superior Gas Engine direct connected to 12"x16" Compressor Cylinder, two cycle	2,450.00
1—3"x2"x4" Worthington Duplex Steam Pump	40.00
1—6 H.P. F & M Gas Engine, Type Z A W, natural gas attachment	85.00
1—72"x24" Newton Blending Still	950.00
1—500-Bbl. Steel Bolted Tank	200.00
1—48"x72" National Welded Scrubber Tank, ¼" Steel	40.00
740'—12½" 50-lb. Plain End Casing	.90
11,500'—10" 35-lb. Casing	.60
2,250'—8¼" Casing	.45
13,450'—6" 8-thd. Line Pipe	.35
45,000'—2" 3.75-lb. Line Pipe	.06

All prices f.o.b. Tulsa, Okla. This material is all in A-1 condition and subject to your personal inspection. Write or wire

BOX E-990

THE OIL AND GAS JOURNAL

TULSA OKLA.

CALIFORNIA FIELDS

(Continued from Page 34)

two wells abandoned paid out, as No. 11 produced approximately 237,000 bbls. of crude oil and No. 17 produced 178,000 bbls. during a period when this crude commanded well over $1 per barrel. The Standard, which is making preparations to redrill and deepen No. 12 San Gabriel in the Seal Beach Field, is rigging up rotary equipment in well No. 25 on the same property preliminary to an early spud. The latter well is a direct offset to the Continental's No. 1 Selover, which was recompleted during the early part of January, 1932, flowing 875 bbls. per day from 6,389 feet. No. 12 San Gabriel of the Standard, a producer in the Wasem zone, will be deepened to the McGrath horizon encountered around the 6,350-foot level. The Union Oil Co. is abandoning its No. 1 Tracy, a wildcat in San Joaquin County, as a duster at 5,511 feet. This test failed to show anything resembling commercial production of either oil or gas from the grass roots down. This exploration work was entirely justified, however, but may unfortunately put a damper on additional drilling in the northern part of the State. The Pacific Northern Oil & Gas Co., which took over the well and acreage of the George F. Getty Co., Inc., in the Guinda district of Yolo County, is cleaning out its wildcat in Section 23-12-3 following a little gas blowout which occurred late last week.

CENTRAL WEST FIELDS

(Continued from Page 35)

pletions are delayed. In Indiana, like the Lima Field, there still remain many counties in line for production of both oil and gas. Charles C. Talliaferro, Jr., brought in a gas well in No. 6 on the Aaron George farm, Section 20, Washington Township, Pike County, with 1,000,000 feet. Several wells are due for completion in both Pike and Gibson Counties.

Lloyd and others are drilling on the Thompson-Crathers farm, Section 1, Hadden Township, Sullivan County. A. R. Morris is reported shut down at 1,600 feet on the H. B. Brown farm, Section 9, Washington County. Two wells, not yet completed are shut down in Daviess County, one being Hartman and others' No. 3 Sylvester Swan, Section 28, Veale County, and Williams and others' wildcat near the town of Montgomery.

The wildcat being drilled by H. J. Hauck and others on the John Siddles farm, SW Section 4, Lincoln Township, Laporte County, at last report was at 1,515 feet. In this well a light gas showing was found at 365 feet and Trenton was topped at 1,400 feet, with a showing of oil at 1,450 feet, but no improvement in showing of either oil or gas at 1,515 feet.

The test of the French Development Corp. on the T. A. Reitzel farm, Section 8, Liberty Township, Hendricks County, does not look so good. Trenton was topped in this well at 2,000 feet and at last report was at a total depth of 2,700 feet and probably drilling in the St. Peter formation.

ILLINOIS

No completions were reported from the Illinois Field, the only change showing wells being abandoned. The Ohio Oil Co. pulled out 13 wells in Lawrence County. In Petty Township, these were Nos. 6 and 33 Oscar Smith farm, Section 20; Nos. 11 and 23 F. P. Eshleman farm, Section 29; Nos. 8 and 11 L. D. Sutton farm, Section 30, and Nos. 16, 17, 19, 20 and 21 J. D. Madding farm, same section. In Bridgeport Township same company abandoned No. 26 J. F. Griggs No. 1 farm, Section 32, and in Lawrence Township, No. 4 on the Effie Eshelman farm, Section 33.

KENTUCKY

Ten completions were reported in the Kentucky Fields of which six were producers with an initial of 173 bbls., two dry holes and two gas wells. In Hart County, Logsdon Valley area, Hupp & Duff's No. 13 on the Grover Jaggers No. 1 farm, was estimated around 100 bbls. initially, and in the Priceville-Bonneville area of the same county the Mud Branch Oil & Gas Co. drilled in a gas well estimated at 750,000 feet.

In McLean County, Cameron, Thompson and others' test on the Hardin heirs farm, is reported a dry hole, as is the Ohio Oil Co.'s No. 1 W. E. Lynn farm at a total depth of 1,554 feet.

In Hancock County, D. T. Bolling drilled in a second test on the Ollie Bolling 90 acres, which produced 6 bbls. initially. No. 3 same farm is drilling, and James C. Ellis and others are drilling No. 1 Pate Lyons farm.

In Daviess County, MacDonald and others brought in a fair gas well on the Ellis Morrison farm and are starting No. 2 same farm.

In Ohio County the Cumberland Petroleum Co. is drilling No. 3 on the A. E. McCarty 85 acres.

In Webster County, Sebree Field, Iley Browning, geologist, brought in a nice gas well on the Jim Liggett farm.

In Henderson County, Niagara Field, the Imperial Oil & Gas Products Co.'s No. 2 S. A. Freeman farm is rated good for 20 bbls.; same company's No. 2 Aaron Freeman farm, 20 bbls.; No. 2 Jones farm, 15 bbls.; and No. 1 Bunch farm, 12 bbls.

EASTERN FIELDS

(Continued from Page 35)

shut down after reaching 1,450 feet on the Rutherford heirs farm. In the same district, the Hope Natural Gas Co. has started to drill deeper its old well on the J. D. Cain farm. In Walker district, Alleman and Horner reached 590 feet on the E. P. Linger farm and have shut down. In the same district, in Wood County, Hugh Prather is drilling on his own property and is down 500 feet. In Union district, Charles H. Smith is in the sand on the William H. Compton farm. In William district, Warren Reed has shut down at 400 feet on the C. S. Reed farm. In Lubeck district, Walter H. Bickle has resumed drilling in his deep test on his own property. The hole now stands at 4,390 feet.

In Wayne County, Meabohn and Huffman are rigging up to drill their old test on the Mary E. Pratt farm in Stonewall district to deeper sands. In Union district, A. F. Black, trustee, has reached 2,620 feet on the Guyan Valley Bank lease. In Putnam County W. H. Kirtley is spudding in on the J. H. Cottle farm in Scott district. No other active drilling is noted in this county. In the same district, H. C. Zogg has made a location for No. 3 on the Maddox heirs farm, and the Celia Oil & Gas Co. has one ready for No. 5 on the John Tormey farm.

In Cabell County, C. C. Wolfe is nearing the Brown shale on the J. S. Stanley farm in Guyandotte district. The hole has passed the 3,000-foot mark. In the same district, the Madison Gas Co. has made a location on the Era Taylor farm, and Wilson and Mowery are rigged up for a second test on the Hans-Watts Realty Co. lease.

In Marshall County there is no drilling visible. In Cameron County, Frye and McCracken remain shut down in their test on the Clinton E. Fry farm at 2,000 feet. The Myers Oil Co. have made no further progress in their rig on the C. M. Strickland farm in Sandhill district. In Harrison County, the Delaware Gas Co.'s second test on the Reynolds heirs farm in Eagle district stills stands at 2,400 feet.

Drilling in Gilmer County has been suspended with but two operations incomplete. These are rigs on the H. E. Engle heirs farm and the Alice M. Ayers farm both in DeKalb district and which have been standing for some time. The former is owned by Frank Golden and others, the latter by A. E. Ellis and others.

SOUTHWEST PENNSYLVANIA

One well was drilled in in Southwest Pennsylvania. At Glen Osborne, Aleppo Township, Allegheny County, the Swain Oil Co. completed a test on the A. L. Berg farm in the Hundred Foot sand. It is showing for 3 bbls. a day natural. It is stated that the well will be shot this week.

Chicago Markets Appear More Settled

Improved Tone Reported Due to Firmness of Refiners. Buyers Finding It Difficult to Secure Lower Quotations

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Mar. 7.—Gasoline tank car markets in Chicago district Monday were reflecting the more settled conditions in the refining and marketing branches of the industry. The turn for the better brings relief to the operators who have watched the tank wagon and service station markets throughout the territory weakening under the price sniping of small and large retailers. Similarly, in the crude oil markets, so it is held in oil trade circles here, the downward pressure of low prices for the major refined product is considerably lessened by this betterment.

The improved tone to the gasoline tank car markets is ascribed to the withdrawal of numerous refiners from the markets at their current levels. One operator in Chicago district has closed down his refinery until prices advance, and it is reported that several plants in Texas and Oklahoma were shut down the first week of this month. The weather, which has been ideal for motoring, took a bad turn at the close of last week when rain and snow brought a warning that the winter basis of operation should not be abandoned too rapidly. However, March is looked upon as the opening of the season of increased gasoline demand, and buyers are finding it difficult to get material at prices they feel are in keeping with the actual current consumption and the supply available.

Large Orders Present Anomaly

Several large orders are in the offing, and in two of these the prices quoted are far from reflecting improved conditions. This business, it should be remembered, takes the eighth to quarter cent allowed to the reseller. However, the prices do not coincide with the reported new conservatism of the refiners. Prices quoted by three refiners on the Benzoline Motor Fuel Co. business of 125 to 150 cars of 57 octane gasoline were 2.60, 2.81 and 3.75 cents, and all of these were turned down. It is understood that the successful bidder offered a price of 2.5 cents. The post office business, which involves considerably more handling as the material is delivered to post office tank trucks, amounts to 250,000 gallons and the prices quoted are as follows: Differential, Deep Rock Oil Corp., bid quarter of a cent below average of daily publication with 4.25 cent maximum, plus 0.5 cent for handling; Jewett & Sowers Oil Co., big one-eighth cent below the average with 4.5 cent maximum and 0.5 cent for handling. Flat rate, Deep Rock, 4 cents Group 3, and 0.5 cent handling charge. Bidder's bulk plant, Deep Rock, 6.94 cents, Chicago; Pure Oil Products Co., 2.92 cents above the low with 7.22 cents maximum. Standard Oil Co. of Indiana bid one-eighth below average with 4.25 cent maximum, Group 3, and refund on government's special freight rate. The gasoline specified was 57-65 octane number.

Third Grade Gasoline Developments

Considerable interest has been aroused in Chicago district oil trade circles by the report that a major refiner is planning to introduce a white third grade gasoline. The uncolored third grade will be sold in Minneapolis this week or next, according to reliable informants. The reason given by the refiner is that the trackage station operators have made much of the fact that their own gasoline is uncolored, their typical statement being: "Our gasoline doesn't have to be colored to hide impurities, and you can see for yourself that it's clear. We would not sell that colored slop."

The third grade gasoline of one of the major companies has been improved in respect to octane rating and initial, and there are good indications that the advancement of the regular grade to 68-70 octane number by more of the larger marketers will bring up the question of a 60 octane third grade gasoline. Reports which are so far unverified are heard consistently to the effect that at least one of the larger refiners will raise the antiknock rating of the third grade to 60 octane number by June. The three grades would then be, 78 octane for the premium, 70 for the regular, and 60 for the third grade. Companies which have introduced the 68-70 octane regular grade, announcing the move in all mediums of advertising, report that their gallonage has leaped upward, showing the selling appeal of antiknock. Therefore, any upward movement in octane ratings in the third grade may be expected to engage all of the marketers with hardly an exception. The problem of the ordinary straightrun gasoline is thus becoming more serious and the time appears not far off when practically all of the straightrun gasoline must be reformed.

Service Station Price Cuts

Price cuts in the third grade have been made as follows: Peoria, service station reduced from 11.9 to 11 cents, March 3; Des Moines, tank wagon reduced from 11 to 9.9 cents, March 4; East St. Louis, service station reduced from 10.8 to 10 cents, March 1; Kansas City, service station reduced from 13.5 to 12 cents, February 25; Madison, Wis., service station and tank wagon reduced from 14.9 to 14.3 cents, March 2.

At several points in the territory the larger marketers have not moved farther down to meet new price cuts at trackage stations. At Milwaukee where the jobber failures are on the increase, the major companies are posting service station prices of 8.5 cents plus tax, while the price at the trackage stations is 7.5 cents plus tax. One cut price operator who has three stations in Milwaukee pays the refiner 6.5 cents for the gasoline delivered in his tanks and sells at 7.5 cents plus tax. Another trackage station operator increases his margin of profit by purchasing U. S. Motor at 5.54 cents delivered Milwaukee, and more or less stabilized natural gasoline at 1.65 cents, and blending these. The cut price operators are showing an increasing interest in natural gasolines, the vapor pressure of most of the material moving ranging from 14 pounds to 24 pounds, with recovery given at from 95 to 97 per cent.

Another development which will not please those who wish to hold the tank wagon and service stations to their present level is the decision of a comparatively large marketing equipment supply house to finance trackage stations. This company, it is said, requires only that the prospective cut price operator have a corner lot somewhere, and that the supply company shall have something to say in the matter of a contract for gasoline and lubricating oils. The company will permit the operator to pay out the station and equipment in monthly installments.

The possibility that cut price stations would soon be offering insurance policies with every 7 gallons of gasoline, mentioned in these columns several weeks ago, has become a reality. Beacon Mutual Casualty Co., of Chicago, in consideration of weekly premium of 10 cents and policy fee of 8 cents (apparently paid by the trackage station), insures the holder of a policy given with purchases of 7 gallons of gasoline for one week against "losses resulting exclusively of all other causes due to bodily injury sustained by the insured during the life of this policy, solely through external, violent and accidental means, and which bodily injury is sustained by the insured through the wrecking or disablement of any automobile, taxicab, omnibus or motor truck in which the insured is then driving or riding, or in consequence of being struck by any automobile while standing, walking or riding on a public street or highway . . ." Indemnity ranges from $1,000 to less than $10. At the station presenting this policy the 7 gallons of gasoline cost $1.05 cents, while the regulation trackage station price is 7 gallons for 84 cents, a difference of 21 cents. Once a week the holders of these policies receive cards from the service station owner reminding them to "come around." An important addition to the list of premiums offered at the less progressive stations is the theater ticket, nominal value 30 cents, given for purchases of 10 gallons of gasoline.

Thoroughly aroused by what they consider an unwarranted attack, the marketers have amassed data purporting to prove that they have exerted a strongly favorable influence in the market structures. Instances are given where some of the larger marketers withdrew huge stores of material, 15 cars of Pennsylvania bright stock in one case, from the open market to avoid breaking down the structure. It is also said that in the recent periods in which numerous small refiners have been anxious to liquidate their stocks the marketers, or so-called brokers, showed they did not want to demoralize the markets by refusing to pare down refiners' quotations just because the refiners had to sell to meet current obligations.

Heating Oil Tank Wagon Cut

Oil distributors in the district have reduced the tank wagon price of their Nos. 1 and 2 fuels half a cent and a quarter of a cent on dumps of 350 gallons or more, lowering the No. 1 to 6 cents from 6½ cents, and the No. 2 from 6 to 5¾ cents. Other prices on dumps of 350 or more gallons remain as follows: No. 3, 5¾ cents; No. 4, 5½ cents; No. 5, 4½ cents; No. 6, 4¼ cents. Considerable dumping of the light distillates on the market is reponsible for lower prices in these materials. At least 100 cars of the 38-40 distillate were sold at 1.59 cents Group 3, to Chicago district marketers by a large refiner. It is to the credit of the Chicago marketers that they have held their prices in the face of the most adverse conditions in many years. A smaller number of distributors have also reduced the postings on the Nos. 1 and 2 fuels in dumps of less than 350 gallons. The prices were cut from 7 to 6½ cents, and from 6½ to 6 cents, respectively. There is some talk of changing the specifications so that one or more of the fuels listed may be dropped. Several refiners are reported to be making agreements with manufacturers of oil burners. The oil burner people are said to be seeking a form of royalty in return for recommending certain oils, but this is not looked upon favorably by the marketers and refiners. It is the opinion of many oil men here that salesmen of oil burning equipment have hurt their own business by being hypercritical about the grades of oils that may be used in their installations.

Gasoline Tank Car Markets

The season for declining heating oil markets ushers in the period of expanding motor fuel and lubricant demand. The refiners are getting most of the credit for current price advances for their attitude of watchful waiting. This is probably deserved as instances may be cited where refiners, especially in the Mid-Continent, have boosted their prices and are refusing to sell at a lower figure. In the district there has been considerable comment on some sales made to meet prices of shippers from differential points. The prices were made f.o.b. refinery and are not based on the Group 3 net back, so that the price structure in the district is not involved.

Only two of the gasolines advanced in price, but a much firmer position is held by the other grades and higher quotations throughout the list may be expected this week. The U. S. Motor gasoline advanced from a range of 2⅞ to 3 cents to a range of 3 to 3¼ cents, with most of the movement at 3⅛ cents. The 60-62 400 endpoint gasoline, also continued to advance, moving up from 3⅛ to 3¼ cents to a range of 3¼ to 3½ cents. In the fighting grade aviation gasoline the low was unchanged, but one major company moved up its price 1 cent to 6 cents and is doing a representative business. It is expected that this advance will be followed shortly as prices on this material have been abnormally low even for these times. Prices on the 64-66 375 endpoint gasoline were 3¾ to 4 cents; the 68-70 360 endpoint gasoline was 4 to 4¼ cents.

Naphtha Tank Car Markets

In the naphtha tank car markets only the blending material gave any indication of increased activity. The 50-52 450 endpoint naphtha moved up an eighth of a cent to a range of 2⅞ to 3⅛ cents. In the special naphthas there was no noticeable change in the volume of business. It is reported that Stoddard solvent, 4⅞ to 5⅛ cents, is somewhat weaker, while business does not appear as brisk as was expected in paint and rubber materials. Rubber solvent, which was expected to show a bulge due to greatly increased automobile demand, remains at 5¾ to 6¼ cents. Petroleum thinner is unchanged at 4⅜ to 4⅝ cents; V.M.&P. naphtha is 5¼ to 5½ cents, and petroleum thinner is 3⅞ to 4¼ cents. Steadiest in the list are the cleaners' naphtha and the two grades of lacquer diluent. Cleaners naphtha is 5⅝ to 5⅞ cents, and the lacquer diluents are both 9 to 9¼ cents.

Kerosene Tank Car Markets

The spring demand for kerosene, as far as this part of the country is concerned, is still in the offing. If gasoline markets do not do much better than last year the farmers will continue to neglect kerosene, no doubt, but there is a feeling prevalent that kerosene will be given a better chance this year. Currently the markets do not have the strength that has marked them for so long, although the prices are unchanged. The 41-43 water white kerosene is offered at 2½ to 2⅝ cents, and the 42-44 water white material is quoted at 2⅝ to 2¾ cents.

Gas Oils and Fuel Oils

The gas oil and light distillate tank car markets are slightly softer than a week ago due to developments pointed out above as much as to the seasonal considerations. A pickup in industrial inquiries is reported, but most of this is for the heavy fuels, principally below 18 gravity. The 38-40 light straw tractor fuel product sagged an eighth of a cent to 2 and 2¼ cents, and similar reductions are noted in the furnace oils, 32-36 straw, 1⅝ to 2 cents, and 38-40 straw, 1⅞ to 2⅛ cents. Prices are unchanged in the remainder of the list, and, as already mentioned, the heavier materials are firmer.

Eastern Refinery Prices Unchanged

Increasing Domestic Stocks of Gasoline and Light Exports Partially Offset by Heavier Consumption. Lower Grades Being Shaded

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Mar. 7. — Steadily increasing domestic stocks of gasoline, coupled with unusually light export movement, created a somewhat easier feeling in East Coast market circles during the past week, but continued heavy consumption throughout the Atlantic Coast territory tended to offset these unfavorable developments to some extent, and prices in refinery markets remain unchanged. Refiners are maintaining posted prices on gasoline in the higher antiknock ranges, but lower grades are susceptible to price shading.

With the export market situation showing continued unsettlement it is expected that domestic producing and refining interests will be greatly interested in the proposal to be put before the trade this week by J. B. Aug. Kessler, managing director of the Royal Dutch Co., for a world stabilization plan, involving the revival of the export association in this country as the controlling factor in American refined products exports. Although the export association has been inoperative for the past year, the organization has been maintained and the association would be in position on short notice to resume its operations as the clearing house for exports of refined products from this country.

Heavy oils, which have been consistently weak in East Coast markets for the past year, are showing isolated signs of firming up in some branches of the trade. In Philadelphia, normally the most competitive fuel oil market on the Atlantic Seaboard, some efforts are being made to establish a 70-cent market for Bunker C oil and a $1.40 market for Diesel oil, both prices being 10 cents per barrel over the prevailing posted levels at Philadelphia and other principal bunkering ports on the East Coast. In view of the general belief that Bunker C and Diesel oil markets are due for an advance during the present year, the situation at Philadelphia is being closely watched, and any sustained increase at that point would undoubtedly be mirrored at other points in the territory in short order.

Major marketers operating in the East are expected to announce definite plans in regard to third-grade gasoline in the near future. Present indications are that eastern markets will be literally flooded with gasoline of less than 65 octane number as soon as the warmer weather is definitely at hand, and with independent marketers expected to utilize these supplies extensively in price cutting operations, the larger integrated companies are making their plans to meet this competition as it develops. Although many motorists are demanding gasoline of high antiknock rating, the meaning of octane numbers has not yet been sufficiently publicized so that the average consumer can know just what his car needs for satisfactory operation.

Refinery Gasoline

Posted prices for gasoline of 65 octane number and above range from 6 to 6½ cents in tank car lots at the refineries. While the 6½-cent figure predominates in the published prices of principal marketers, they are frequently finding it necessary to meet 6-cent competition. Jobbers are not buying ahead to any great extent, and it is evident that publication of A.P.I. figures showing further sharp gains in refinery gasoline stocks has had an unsettling effect upon the market. While a seasonal gain in motor fuel stocks at this time of the year is normal, it is held in many sections of the trade that present abnormal market conditions make the addition to stocks by refiners unnecessary at this time, and continued efforts are looked for toward further restriction in the rate of refinery operation, and consequently in gasoline output.

U. S. Motor gasoline of less than 65 octane number is posted at 5¾ cents in the local tank car market, with plenty of material to be had at 5½ cents. There has been a fairly good movement of the lower grades during recent weeks, unusually warm weather for this season of the year, coupled with current economic conditions, making a good market for the lower priced product. With substantial quantities of the lower grades available in Group 3 markets, and distressed stocks offered at exceptionally low prices in some instances, it is expected that there will be a heavy eastward movement of this material throughout the spring and summer months.

There will be more independent refiners selling in the New York harbor tank car market during the coming summer than for many years past, it is indicated, and considerable competition for tank car contract business over the summer season is looked for.

Tank Wagon Gasoline

Gallonage was well sustained throughout the territory, weather conditions being favorable for continued heavy consumption. The report of the New York State Tax Department indicated that December gasoline sales in the state were 123,640,456 gallons, an increase of some 9,000,000 gallons over sales in December, 1930, and it is reported that this rate of increase has carried over into the current year.

Notwithstanding the increase in the New York State gasoline tax rate to 3 cents, leading brands of gasoline are still available at many filling stations in the metropolitan area at 8 gallons for $1, tax included, which means an exceptionally small netback to the refiner.

There were no general revisions in tank wagon and service station price schedules during the week. Standard Oil Co. of New Jersey announced that, effective March 1, it had advanced its tank wagon gasoline price 2½ cents at Charlotte, N. C. The advances made at a number of points in New York State during the previous week by Standard Oil Co. of New York have been followed by other marketers.

Price schedules in the tank wagon market in East Coast territory show considerable irregularity still, and it is expected that marketers will attempt to restore some degree of uniformity to their lists before any general seasonal advance is put into effect. There appears to be a general feeling that present softness in the refinery gasoline market is but a temporary condition, and sentiment in market circles is that better times, which means, of course, higher prices, are definitely in sight for the coming motoring season.

Kerosene

Refinery movement of kerosene has held up well, with quotations unchanged. The posted price for 41-43 water white holds at 5½ cents, in tank car lots at refineries, with offerings still available at a quarter cent under this level. Pennsylvania refiners are competing strongly with seaboard refiners for business at points in the territory where the Pennsylvania refiners enjoy a freight differential.

Gallonage in the retail division of the kerosene market continues to run into satisfactory totals. While the mild weather continues, consumption of kerosene is apparently unchecked. This is attributed to the fact that many consumers, for purposes of economy, are using kerosene heaters whenever possible to conserve their coal supplies. No changes in kerosene tank wagon or retail prices developed during the period under review.

Lubs

Cylinder oil business was fairly active, and quotations were showing a firmer undertone, although no changes from the previous week's levels were noted. Refiners were showing firmer price views, and offerings for later delivery at current price levels were infrequent.

Refiners expect that price will be a major factor in retail lub oil sales during the coming motoring season, and present indications are that average retail prices, including quotations on leading advertised brands, will be the lowest in many years. In addition to sales of automobile lubs at low prices by department stores and mail order houses, chain stores are paying more attention to this business. A chain of cigar stores is selling branded lubs in 8-quart cans for $1 in the metropolitan territory.

Slow recovery in demand for industrial lubs is reported, and current volume is rather limited. No price changes developed during the week on either red or pale oils.

Fuel Oil

The most encouraging development in the bunker oil market for months past is the firmer tone reported from the Philadelphia market, where sellers are endeavoring to establish a 70-cent per barrel market for Bunker "C," and are likewise attempting to effect a 10-cent advance, to $1.40 per barrel, in Diesel oil quotations. As much of the recent price competition in heavy oils has come from Philadelphia, where prices have often been 5 to 10 cents per barrel under the levels maintained at other points on the Atlantic Coast, refiners are greatly cheered by the latest developments.

Locally, refiners continue to post bunker oil at 60 cents per barrel, f.o.b. terminals, and the same quotation rules at other principal East Coast ports. The outlook in the shipping industry is more favorable, and larger sales are indicated. The Leviathan, a large consumer of bunker oil, goes back into service next month, after a three-month's lay-up.

Diesel Oil

Aside from the firmness in the Philadelphia market, Diesel oil markets in the East underwent little important change. The posted price holds at $1.30 per barrel, bulk, at terminals, with marine contract withdrawals fairly well maintained.

Development of domestic industrial Diesel oil sales has been retarded somewhat by current industrial inactivity, but refiners are closely following shore business, and indications point to steadily increasing consumption in this field with a resumption of industrial activity at more normal levels.

Gas Oil

Routine activity was again reported in the gas oil market with prices unchanged. Refineries were still holding the posted quotation for 28 gravity plus recycled oil at 4 cents in tank car lots at the refinery, but the spot market ranged 3½ to 3¾ cents, and the 4-cent quotation was merely nominal.

Contract withdrawals by industrial consumers were running into normal totals, but spot business remained rather light. Stocks of gas oil at East Coast refineries continue fairly large.

Paraffin Wax

New business did not develop in any large volume on the spot position, and the market was quiet throughout, with quotations unchanged. Domestic buyers are still covering requirements as they develop, and export buying is rather light.

Contrary to earlier reports, paraffin wax has not been included in the products subject to the 10 per cent ad valorem import tax in Great Britain. Paraffin wax imports have been duty-free hitherto, and British tariff authorities are now understood to be considering whether or not to make the import duty applicable to this product.

Petrolatum

Pharmaceutical and cosmetic manufacturers were drawing stocks against contracts in good volume, and spot inquiry was also a little better. Quotations were steady on all grades, and the market tone was slightly improved, reflecting a reported curtailment in output on the part of eastern manufacturers of this product. Industrial consumption is expected to show a seasonal improvement during the second quarter.

Gulf Export Market

There were no cargoes reported placed at the Gulf and the part cargo of 64-66 gasoline for which French buyers were inquiring during the previous week was reported to have been placed in Rumania.

Kerosene quotations have been lowered in the Gulf export market, with prime white now offered at 4 cents per gallon and water white at 4¼ cents, representing reductions of one-quarter cent per gallon in each instance.

While posted prices for gasoline have not been changed at the Gulf, quoted levels are nominal in all instances, and it is probable the figures given could be shaded on actual business. The last cargo of 64-66 closed at the Gulf was booked at a price substantially under 4½ cents, but the figure set in that sale was not held as establishing "a market" because of the fact that the contract was taken by the American parent company of the French distributor involved.

No additional trading in Venezuelan or Mexican crude developed and prices were reported unchanged in both instances. Several cargoes of Panuco crude were reported shipped on an earlier order, at a price figuring out between 83 and 85 cents per barrel, c.i.f. Scandinavian port, and some East Texas crude was moved to France on term contract.

Petroleum Exports

There was some falling off in the rate of petroleum exports from New York reported for the week ended February 27, and limited inquiries indicated little promise of substantial gallonage in the "new business" category.

The following table shows refined petroleum exports from the local port for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Feb. 27	Feb. 20	Feb. 13
Gasoline	260,000	120,000	15,000
Naphtha	500,000	5,000	21,000
Kerosene	48,000	250,000	18,000
Fuel oil	9,000	5,000	2,000
Lubricating oil	1,105,000	2,451,000	510,000
Petroleum, ref'd	195,000	705,000	320,000
	Pounds		
Petrolatum			75,000
Paraffin wax	775,000	1,225,000	2,750,000
Refined	460,000	35,000	
Scale		500,000	680,000
Lub. grease	425,000	1,040,000	560,000

The disclosure that refined petroleum products (with the possible exception of paraffin wax) were exempt from the provisions of the new British tariff act did not reach American oil trade circles un-

(Continued on Page 75)

Brief Items for Petroleum Refiners

DEMAND FOR OCTANE RATING IN EXPORTS

NEW YORK, Mar. 5.—Export gasoline markets, which have thus far been free of price differentials based on octane number knock rating qualities of motor fuel, are showing a tendency to go on an octane basis, much to the disquietude of many sellers. Foreign buyers in recent weeks have been inquiring as to the octane rating of motor fuels offered them, and, while octane insistence is not general as yet, export operators believe that 65 octane number will be settled upon as the dividing line between high and low grades of gasoline for shipment abroad, with the higher quality naturally carrying a premium.

Export operators view the advent of "octane consciousness" in their market with mixed feelings. "If there was any way of avoiding it," said one cargo seller this week, "we would like to have octanes entirely forgotten, so far as the export market is concerned, as it means nothing but trouble at the present stage of the game. I don't see why foreign buyers are fussy about the octane ratings of gasoline offered them out of the Gulf, because they are placing their business with Rumania or Russia anyway.

"If there is a widespread and comprehensive understanding of octane rating on the part of consumers abroad, however, the result for the American market would be a favorable one. It is not believed that either Russian or Rumanian refineries, as a group, are equipped for the production of high octane rating gasoline, and if foreign buyers really want to make octane number the decisive point in their purchases, why the Gulf market will get a good deal more business than it has been receiving in recent months, and Rumanian and Russian gasolines in many instances will have to take a 'back seat' in foreign markets, and take their places in the second and third-grade groups.

"But, unless we can establish and maintain a premium on gasoline of high octane number, the introduction of the octane number feature into export selling is going to mean nothing but grief to the trade, and will be just one more instrument for price shading on competitive business."

PROVIDE ELECTRICITY FOR MIDWEST PLANTS

DENVER, Colo., Mar. 7.—The Midwest Refining Co. has let a contract to the Stearns-Rogers Manufacturing Co. of Denver for the electrification of the Midwest and Standard Oil Co. of Indiana refineries at Casper. A 45-mile high-power transmission line will be constructed from the company's big power plant in the Salt Creek Field to the refineries. Electric power will replace steam power for all prime movers and electricity for lighting purposes now purchased from the municipal plant at Casper will be replaced with the company's own power.

The Midwest company began construction late in 1923 on a power plant for the Salt Creek Field which represented an investment of close to $4,000,000, including electrical equipment, reservoir, transmission lines, etc. A year later the first unit went into operation. It was designed with a capacity to pump 4,000 to 4,500 wells. This was the largest and most modern electrical power unit ever installed in any oil field up to that time and Salt Creek was the first oil field in the Rocky Mountain area to be electrically operated. The plant now has a capacity in excess of requirements and this makes available the supply for the Casper refineries.

The installation of a Cross cracking

(Continued on Page 75)

NEW TARIFF LAWS IN BRITAIN EXEMPT CRUDE OIL FROM DUTY

NEW YORK, Mar. 5.—Contrary to all earlier reports from London the new British tariff law, in its final form, does not include in its provisions crude petroleum or any refined petroleum products. Imposition of the new 10 per cent import duties, therefore, does not affect the petroleum situation in any manner, although it is considered possible that some action along this line may be taken following the forthcoming conference in Ottawa looking to closer co-operation between the United Kingdom and British colonies and possessions.

The tariff situation in England, as it affects the petroleum trade, is outlined in the current issue of London Petroleum Times, which states that all petroleum products imported into the United Kingdom are exempt from the provisions of the new law.

"This now definite decision," says the Petroleum Times, "is contrary to the views we have expressed, and while not attempting to cover ourselves in this regard, it is interesting to note that our conclusions were drawn from a variety of trade sources, and, indeed, were the opinions of many within the oil trade, as well as certain departments associated with the trade. There has been much confusion in regard to the whole subject, and while we are making no reflection upon these semiauthoritative sources, who should have been in possession of the 'secrets,' it is obviously regrettable that news should have gone forward which is actually the opposite of the truth.

"Until the present week there was no suggestion, either within or outside parliamentary circles, that the whole position of our imports of petroleum products as regards the provisions of the imports duties bill was governed by the Finance Act of 1928. Under this act it is laid down in Section 2 that:

"'A customs duty at the rate of 4d.

(Continued on Page 75)

COMPLETING OCTANE REFINERY AT BAIRD

The Octane Oil Refining Co., which is completing a refinery at Baird, Tex., expects to start operating in the near future. The refinery will have a crude oil capacity of 1,500 bbls. daily. The plant equipment includes cracking facilities. It is located in Callahan County of North Central Texas on the Texas Pacific Railroad.

Sylvester Dayson, former vice president in charge of refinery operation for the Lion Oil Refining Co. at El Dorado, Ark., is president and general manager of the Octane company. J. R. Parten is vice president, and J. R. Pope is secretary and treasurer of the company. J. L. LeBlue is superintendent of the plant.

CAMPBELL TO BUILD PLANT

Walter K. Campbell and associates of Wichita Falls, Tex., has contracted for the oil production in the Los Olmos Pool in Starr County, Texas, and is to build a 300-bbl. refinery to make lubricating oil, later intending to put in a cracking plant. The Los Olmos crude is the same gravity and quality as the Laredo crude and on straightrun doesn't make gasoline but when cracked makes 50 per cent or more gasoline of a high antiknock quality.

The Rio Oil & Gas Co. held a contract for the production of the field but waived this on an arrangement for Campbell to build a refinery.

BUYS SAN ANGELO PLANT

W. B. Hagan, president of the Pecos Crude Oil Purchasing Co. and Pecos Valley Pipe Line Co., Herbert O'Bannon and C. O. Harris, all of San Angelo, have purchased the 2,500-bbl. refinery from the San Angelo Refining Co. The plant will operate on crude from the Pecos Valley, Pecos County Field.

FRASER AT WILCOX PLANT

W. M. Fraser, well known in Mid-Continent refinery circles has returned to Oklahoma to take charge of the operations of the Bristow plant of the H. F. Wilcox Oil & Gas Co. Mr. Fraser was formerly superintendent of the Marathon Oil Co.'s plant at Bristow and after resigning was named assistant superintendent of the Republic Oil Refining Co.'s new plant at Texas City.

INSTALLING CRACKING PLANT AT SOUTHPORT

The U. S. Refining Co. is building a cracking unit at its Southport (New Orleans), La., refinery which it recently took over from the Southport Oil & Refining Co. The company, which has its headquarters in the Fort Worth National Bank Building at Fort Worth, Tex., expects to start operating the plant in the near future. The cracking equipment will have a capacity of 2,500 bbls. daily.

The plant at Southport was shut down for several years before it was taken over by the Southport company last year and partially rebuilt. The plant has terminal facilities and is located on the Union Pacific Railroad. E. L. Chapman of Fort Worth is president of the U. S. Oil Refining Co.; H. M. Gilbert is secretary and treasurer and also has charge of refinery operation.

TO RESUME OPERATIONS

The Lewistown, Mont., refinery of the Arro Oil & Refining Co. will resume operations about April 1, according to officials of the company. The plant, which has a crude oil capacity of 2,000 bbls. daily has been shut down during the winter months. The plant serves a local trade and due to the low gasoline consumption during the winter months in Montana, it is not necessary to operate continuously.

CAPT. M. E. WEBB DIES

Capt. M. E. Webb, 69, chief engineer of the West Tulsa, Okla., refinery of The Texas Company, died March 5 at a Tulsa hospital. He had been ill for several weeks. Captain Webb was a veteran of the Spanish-American War. He is survived by two daughters. Funeral services were held Monday in Tulsa.

MAY BUILD LUB PLANT

The Yale Oil Corp. of South Dakota, which operates a 3,000-bbl. topping plant at Billings, Mont., is considering plans for the construction of a lubricating plant to be operated in conjunction with the skimming operation. The company also operates an 800-bbl. skimming plant at Miles City, Mont., and an affiliated company, the Yale Oil Corp. of Oklahoma, operates a 2,000-bbl. plant at Yale, Okla.

PREPARING PROGRAM FOR DIVISION OF REFINING

The division of refining of the American Petroleum Institute, which will hold its semiannual meeting in Tulsa June 1, 2 and 3, is preparing an interesting program for the three-day meet. Dr. R. P. Anderson, secretary of the division, has invited members of the division to submit brief notes covering "interesting kinks or wrinkles in refinery methods."

In his communication to members of the division, Doctor Anderson said that the program committee believes that a limited amount of time may well be devoted to such a feature. He suggests as proper subjects inspection of equipment and gauging of cracking still tubes.

The committee may not be able to find places on the program for all of the suggestions, Doctor Anderson wrote, but they would choose those that appear of widest interest; and he asks that those who have such special feature send him a description of it as quickly as possible and before March 15.

LOUISVILLE REFINING CO. ADDS ABSORPTION PLANT

The Louisville Refining Co. will add a 5,000-gallon vapor recovery and absorption gasoline stabilizer at its 4,000-bbl. refinery in Louisville, Ky. Construction work will start within the next week and contracts have been let to the Burrell-Mase Engineering Co. for the equipment and complete engineering service. Erection of the unit will be handled by the Louisville Refining Co.'s engineers.

SOLAR USING LIMA CRUDE

TOLEDO, Ohio, Mar. 5.—Crude oil from the Lima oil field now is being used at the Solar plant of the Standard Oil Co. of Ohio in Lima for the production of gasoline by the Sohio heat tempering process, J. B. Cuthbert, manager of the plant, announced. This use of Lima crude oil will mean an annual outlay of more than $1,000,000 in that district. The Solar plant has been remodeled to make its manufacturing facilities similar to those of Standard plants in Cleveland, Toledo and Latonia, Ky. The oil will be bought in all the producing pools of the old Lima Field.

TO OPERATE OSAGE PLANT

DENVER, Colo., Mar. 5.—Preparations are under way for the reopening of the old United States Refining Co.'s refinery at Osage, Weston County, Wyoming, including the making of repairs and the installation of cracking equipment. H. H. Schwartz, president of the Arro Oil & Refining Co., of Lewistown, Mont., and associates, are in charge of the work. It is planned to run the plant at capacity on Osage crude. It has not operated regularly since 1923.

TO IMPROVE REFINERY

Following a merger with the Portland Associates, the Big Horn Oil & Refining Co. is making plan to improve its refinery located at Billings, Mont. At present, additional storage is being built at the plant and as soon as weather permits new tower equipment will be installed.

The crude oil for the refinery operation will be furnished by the Portland Associates. The company recently completed a 1,200-bbl. well on the Garland structure in Wyoming. Paul Stock is president and general manager of the combined companies.

Manufacture of Natural Gasoline

California Natural Gasoline Production January Unchanged

California added to its natural gasoline stocks during January, but at a much lesser rate than during December. This is due to an increase in the exports to Atlantic ports while production was maintained at about the same rate as a month ago. Refiners also increased their use of natural gasoline by running an average of 3,821 bbls. of natural gasoline per day to stills along with the crude compared to 2,505 bbls. a day during December. Less gasoline was blended with refinery gasoline due in part to the larger quantity blended with the crude but there was an overall increase in the consumption on the part of refiners.

Kettleman Hills continues to be the dominating field in supplying natural gasoline. The production for California totaled 51,204,541 gallons in January, of which 13,495,685 gallons came from plants located in the Kettleman Hills area.

CALIFORNIA NATURAL GASOLINE STATISTICS FOR JANUARY

	Daily aver. Jan.	(bbls.) Dec.
Total production	39,749	39,814
Stock transferred	580	724
Total	39,169	39,090
DEDUCT refinery uses:		
Run to stills	3,821	2,505
Blended	22,616	23,690
Total	26,437	26,195
Unaccounted for	2,477	1,414
Net supply	10,255	11,481
DEMAND:		
Domestic consumption	42	433
Pacific exports	225	1,261
Atlantic exports	6,157	5,301
Intercoastal	2,344	2,340
Total demand	8,768	9,335
Surplus or (deficit)	1,487	2,146
STOCKS—last day:		
Total stocks	1,930,705	1,884,623
At refineries	1,483,306	1,425,858
Elsewhere	447,399	458,765
Inside Pacific Coast territory—last day	1,930,705	1,884,623
Inside Pacific Coast territory—first day	1,884,623	1,818,088
Increase or (decrease) during the period	46,082	66,535

The operations of natural gasoline plants in California are shown in the following tables:

Number of plants operating	121
Daily capacity in thou. of cu. ft.	2,458,813

PRODUCTION BY FIELDS IN JANUARY

	Production by fields gas treated (thou. cu. ft.)	Natural gasoline produced (gallons)
Fullerton and Whittier	598,324	1,437,500
Midway	1,300,333	2,877,331
Huntington Beach	446,615	1,454,679
Kettleman Hills	10,675,889	13,495,685
Long Beach	4,382,317	9,657,975
Richfield	435,977	535,728
Santa Fe Springs	6,426,015	9,351,950
Seal Beach	576,634	996,003
Ventura Avenue	4,926,737	4,420,724
All other fields	4,792,122	6,946,866
Total	35,060,973	51,204,541

PRODUCTION BY METHODS

Type—	Gas treated M.C.F.	Natural gasoline produced (gallons)	Gasoline recovery per M.C.F. gas treated
Oil absorption	34,894,685	51,028,563	1.462
Compressor	166,288	175,978	1.058
Total	35,060,973	51,204,541	1.460

Finished gasoline produced at plants, bbls. 185

Stocks—	Gallons	Barrels
Natural gasoline held by plant operators	6,911,944	164,570
Natural gasoline held by refineries	74,177,670	1,766,135
Total	81,089,614	1,930,705

NATURAL GASOLINE OUTPUT 20 PER CENT BELOW YEAR AGO

Despite a substantial reduction in the output of natural gasoline during January, stocks were increased approximately 7,000,000 gallons for the month. In January the output was 140,400,000 gallons, or a daily average of 4,530,000 gallons per day. This compares with a daily average production during December of 4,710,000 gallons. Stocks of natural gasoline increased from 27,070,000 gallons on the first of the month to 33,974,000 gallons at the close.

There was a general reduction in the output of natural gasoline in practically all areas, but the largest decrease was registered in the Panhandle area of Texas. Here the January production was 15,600,000 gallons, while the output for the previous month was 16,800,000 gallons, a decrease of 1,200,000. Compared to a year ago, the output of this area shows a much greater decline. In January of last year the production amounted to 19,700,000 gallons, or 19 per cent more than the present output.

While this seems to be a substantial decrease, the same percentage of decline is shown for the entire United States. In fact, the decline in the production this January compared to that of a year ago for the country amounts to slightly better than 20 per cent.

An increase in the production of gasoline is shown in only one area when comparing January of this year with the same month a year ago. This is the Oklahoma City Field. Production there has been increased from 3,500,000 gallons a year ago to 7,700,000 gallons this year. Production here has been regulated more by the prorating of crude production than reflecting the development of the field. The output of natural gasoline has closely followed the trend of production in the Oklahoma City Field and this in turn has been dependent upon market demands. Considerably more natural gasoline could be produced than at present were the wells opened up but this is true of several fields and the program of curtailing crude production thus fits in well with the program of holding natural gasoline production to a minimum or at least somewhere near demands.

Oklahoma as a whole shows a very substantial decline in its output despite the increase in the Oklahoma City production for the month. The output of the State amounted to 36,000,000 gallons this January but was 43,100,000 gallons a year ago. The older fields, particularly Seminole, accounted for this decrease.

Texas shows about the same rate of decline. A slight production of natural gasoline has come from the East Texas plants but this has been too small to equalize the reductions shown in the other Texas fields. As mentioned previously, the Panhandle Field showed a substantial decline but in addition a large drop is registered in the west central portion of Texas. As a State, California shows the largest decrease in production when comparing this January with a year ago. The output of California declined to 51,200,000 bbls. this January and may be compared with the output of 64,200,000 gallons a year ago. A very substantial decline is shown in the output for each of the Kettleman Hills, Long Beach and the Santa Fe Springs Fields. A decline is also shown in the older fields. As in the case of Oklahoma City Field, the California output of natural gasoline has been greatly affected by the curtailed operations of the crude oil producing companies and a much larger output of natural gasoline would have to be made were these fields allowed to produce unrestricted.

The practice of blending natural gasoline and refinery naphthas at the natural gasoline plants to make motor fuels is increasing and during January a total of 128,000 gallons of natural and 281,000 gallons of naphtha were blended in this manner. By superstabilizing the natural gasoline, manufacturers find the blending of their product with refinery naphtha a profitable procedure and affords a good winter motor fuel both from the standpoint of favorable starting qualities and also a relatively high antiknock value. This practice has proved profitable in the past month for the reason that natural gasoline prices have been very low and as an example the 1⅜-cent price in the Mid-Continent at present might be cited.

The following table gives the detailed production and stocks for January along with a comparison with those of December and a year ago:

NATURAL GASOLINE STATISTICS FOR JANUARY
(Thousands of gallons)

	Natural gasoline: Production Jan., 1932	Production Dec., 1931	Production Jan., 1931	Stocks end of month Jan., 1932	Stocks end of month Dec., 1931	Blended motor fuel, Jan., 1932: Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	7,400	7,300	8,900	3,878	2,328	43	60	152
Ill., Ky., Ind.	600	1,100	1,100	247	373	...	...	...
Oklahoma	36,000	37,400	43,100	11,310	8,785	24	62	39
Oklahoma City	7,700	7,600	3,500	2,105	1,756	...	...	...
Osage County	4,500	4,600	7,400	2,407	1,692	1	...	7
Seminole	10,800	11,700	16,300	2,993	2,338	...	...	...
Rest of State	13,000	13,500	15,900	3,805	2,999	23	62	32
Kansas	2,600	2,500	2,700	513	428	15	...	14
Texas	31,000	33,700	40,800	8,943	6,005	29	153	22
Panhandle	15,600	16,800	19,700	3,240	1,753	...	...	...
North Texas	2,200	2,500	3,900	957	803	6	...	1
West Central	8,100	8,700	11,900	3,665	2,710	23	153	21
Rest of State	5,100	5,700	5,300	1,081	739	...	...	...
Louisiana	4,700	4,700	4,800	1,286	1,238	17	6	8
Arkansas	1,700	1,700	2,600	226	202	...	...	7
Rocky Mountain	5,200	5,800	5,700	649	655	...	...	...
California	51,200	51,800	64,200	6,912	7,056	...	...	...
Huntington Beach	1,400	1,500	2,000	.....	.....	...	...	...
Kettleman Hills	13,500	14,100	16,300	.....	.....	...	...	...
Long Beach	9,700	9,600	13,700	.....	.....	...	...	...
Santa Fe Springs	9,400	9,100	12,100	.....	.....	...	...	...
Ventura Avenue	4,400	4,400	4,800	.....	.....	...	...	...
Rest of State	12,800	13,100	15,300	.....	.....	...	...	...
Total	140,400	146,000	173,900	33,974	27,070	128	281	242
Daily average	4,530	4,710	5,610	.....	.....	4	9	...
Total (thousands of barrels)	3,342	3,476	4,140	809	645	3	7	6
Daily average	108	112	134	.....	.....	...	...	...

Summarize Data Regarding Liquid Gas Manufacturers

Those companies which manufacture liquefied gases and reported their output to the Bureau of Mines covering their 1931 operations have been enumerated by the bureau for reference and include the following. These manufacturers showed an increase in the consumption of their products of 58 per cent comparing sales made in 1931 to the previous year. In 1931 the consumption was reported as 28,502,847 gallons while in 1930 the total consumption was 18,017,347 gallons. In years prior to 1930 substantial gains were also shown in the consumption since 1922 when the consumption was reported as 222,641 gallons.

Companies Making Liquefied Gases

Carbide & Carbon Chemicals Corp., Carbide & Carbon Bldg., 30 East Forty-second Street, New York. Trade name, "Pyrofax." Sale of product started in 1924.

Carter Oil Co., Tulsa. Trade name not reported. Sale of product started in 1931.

Empire Oil & Refining Co., Bartlesville, Okla. Trade name, none. Sale of product started in May, 1931.

Hope Construction & Refining Co., 545 William Penn Way, Pittsburgh, Pa. Trade names, "Hopane," "S-O-Tane" and "Protane." Sale of products started: "Hopane," January, 1920; "S-O-Tane" and "Protane," 1930.

Lone Star Gas Co., 1915 Wood Street, Dallas, Tex. Trade name, "Stargas." Sale of product started July 1, 1929.

The Mars Co., Oil City, Pa. Trade name not reported. Sale of product started May 15, 1928.

Petrolane, Ltd. (subsidiary of Lomita Gasoline Co.), Long Beach, Calif. Trade name not reported. Sale of product started in 1931.

Philgas Co., General Motors Bldg., Detroit, Mich. Trade name, "Philgas." Sale of product started in 1927.

Shell Oil Co., Shell Building, San Francisco, Calif. Trade name, "Shellane." Sale of product started August 1, 1929.

Shell Petroleum Corp., Thirteenth and Locust Streets, St. Louis, Mo. Trade name, "Shellane." Sale of product started January, 1929.

Skelly Oil Co., Eldorado, Kans. Trade name, "Skelgas." Sale of product started May 19, 1928.

The Sloan & Zook Co., Kane, Pa. Trade name, none. Sale of product started about 1916.

Standard Gasoline Co., 225 Bush Street, San Francisco, Calif. Trade name, "Flamo," and "Bu-Gas." Sale of products started December 15, 1928.

Standard Oil Co. (Indiana), 910 South Michigan Avenue, Chicago. Trade name not reported. Sale of product started in 1931.

Union Oil Co. of California, Union Oil Building, Los Angeles. Trade name not reported. Sale of product started in 1931.

Viking Distributing Co., Charleston, W. Va. Trade name not reported. Sale of product started in 1931.

SUNRAY OIL CO. STARTS OPERATING NEW PLANT

The Sunray Oil Co. has completed its 8,000-gallon absorption natural gasoline plant in Sunray, Tex. The plant has been placed on a full schedule of operations. The company also operates a 7,000-bbl. refinery at Allen, Okla., and much of the natural gasoline produced at the new plant will be utilized by the refinery. Gas is supplied to the new plant by the local field.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINES

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
*U. S. Motor	.03¼	.03⅜	.03	.03⅛
60-62 400	.03⅜	.03½	.03⅛	.03¼
64-66 390	.03⅝	.03¾	.03⅜	.03½
64-66 375	.03¾	.04	.03⅝	.03⅞
68-70 350	.04	.04⅛	.03⅞	.04
NORTH TEXAS—				
*U. S. Motor	.03¼		.03	.03⅛
60-62 400	.03⅜		.03⅛	.03¼
64-66 390	.03⅝	.03¾	.03⅜	.03½
64-66 375	.03½	.03⅞	.03⅝	.03⅞
64-66 360	.04		.03¾	.04
‡NORTH LOUISIANA—				
*U. S. Motor	.03¾	.04	.03⅜	.03½
60-62 400	.04		.03½	.03⅝
‡ARKANSAS—				
*U. S. Motor	.03⅝	.03¾	.03⅜	.03½
CHICAGO Based on Okla. (Group 3)—				
*U. S. Motor	.03	.03¼	.02⅞	.03
60-62 400	.03¼	.03½	.03⅛	.03¼
64-66 375	.03¾	.04	.03¾	.04
Aviation fighting grade	.04½	.05	.04½	.05
68-70 360	.04	.04⅛	.04	.04¼

Octane Ratings—Above quotations cover price ranges on gasolines in which no octane rating is given. In the case of the U. S. Motor and 60-62 400 endpoint grades where an octane rating of 57-65, inclusive, is guaranteed, prices are one-half cent per gallon higher than quotations shown in above tables; where an octane rating of better than 65 is guaranteed, the prices are three-fourths cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-fourth cent higher than the quotations shown in above tables. Unless otherwise provided by agreement of buyers and sellers, the Series 30 testing equipment of the Ethyl Gasoline Corp. is recognized as standard in determining octane ratings.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent evaporated, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

‡For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.04	.04⅛	.04	.04⅛
60-62 400	.04¼		.04½	.04¾
64-66 375	.04¾	.05	.04¾	.05
68-70 350	.05¼		.05¼	

Octane Ratings—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas.

CALIFORNIA (domestic movement only)—				
54-58 U. S. Motor	.04½	.05	.04½	.05
58-60 400	.05	.05½	.05	.05½
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.05½	.05¾	.05½	.05¾
Boston	.06		.06	
Baltimore, Md.	.06		.06	
Charleston, S. C.	.06		.06	
U. S. Motor, 65 octane and above:				
New York (Bayonne)	.06½		.06	.06½
Boston	.06¾		.06¾	
Baltimore, Md.	.06	.06½	.06	.06½
Charleston, S. C.	.06½		.06½	

NAPHTHAS

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
50-52 450 (blending)	.03¼	.03⅜	.03	.03¼
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.04		.04	
ARKANSAS—				
48-50 450 (blending)	.03⅛	.03¼	.03⅛	.03¼
CHICAGO Based on Okla. (Group 3)—				
50-52 450 (blending)	.02⅞	.03⅛	.02¾	.03
Cleaners' naphtha, 56-58 gr. 200 i.b.p.-320 e.p.	.05⅝	.05⅞	.05⅝	.05⅞
Lacquer diluent, 180 i.b.p.-250 e.p.	.09	.09¼	.09	.09¼
Lacquer diluent, 140 i.b.p.-200 e.p.	.09	.09¼	.09	.09¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05⅜	.06¼	.05⅜	.06¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.04⅞	.05⅛	.04⅞	.05⅛
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.04⅜	.04⅝	.04⅜	.04⅝
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05¼	.05½	.05¼	.05½
Petroleum spirits	.03⅞	.04¼	.03⅞	.04¼

NATURAL GASOLINES

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
Grade 18-55	.01¾	.02⅛	.01⅞	.02⅛
Grade 26-70	.01¾	.01½	.01⅜	.01½
Grade 30-70	.01¼		.01¼	
NORTH TEXAS—				
Grade 18-55	.01¾	.02	.01⅞	.02
Grade 26-70	.01¾		.01⅜	
Grade 30-70	.01¼		.01¼	
NORTH LOUISIANA—				
Grade 26-70	.01¾		.01¾	
CALIFORNIA—				
75-78 375	.04¼	.05	.04¼	.05

Note—Grades 18-55, 26-70 and 30-70 are three of 24 grades adopted by the Natural Gasoline Association of America effective January 1. The grades are based on pounds vapor pressure and amount evaporated at 140° F. See page 74 of January 7 issue for explanation of new grading system. While not exactly the same specifications apply, Grade 18-55 corresponds to the former Grade A; Grade 26-70 to former Grade AA and Grade 30-70 to former Grade BB.

KEROSENES

(All kerosenes water white)

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
41-43	.02⅝	.02¾	.02⅝	.02¾
42-44	.02¾	.02⅞	.02¾	.02⅞
NORTH TEXAS—				
40-41	.02⅝		.02⅝	
41-43	.02¾		.02¾	
‡NORTH LOUISIANA—				
41-43	.03		.03	.03¼
42-44	.03¼		.03¼	.03⅜
‡ARKANSAS—				
41-43	.03	.03¼	.03	.03¼
PENNSYLVANIA (inland refineries)—				
45	.04		.04	.04½
46	.04¼		.04⅜	.04½
47	.04⅜		.04⅜	.04⅝
CHICAGO (Based on Group 3)—				
41-43	.02½	.02⅝	.02¼	.02⅝
42-44	.02⅝	.02¾	.02⅝	.02¾
***CALIFORNIA—**				
38-40 high burning test	.03¾	.04½	.03¾	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼	.05½	.05½	.05¾

*For Pacific Coast consumption.

‡For Arkansas, Louisiana and Mississippi delivery.

TRACTOR FUELS*

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
39-41 prime white	.02¼		.02¼	
38-40 light straw	.02	.02⅛	.02	.02⅛
NORTH TEXAS—				
38-40 light straw	.02	.02¼	.02	.02⅛
CHICAGO (Based on Group 3)—				
38-40 light straw	.02	.02⅛	.02⅛	.02¼
PENNSYLVANIA (inland refineries)—				
41-43 prime white	.03½	.03¾	.03⅞	.04

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into consideration differentials in freight rates.

FURNACE OILS*

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
32-36 straw	.01¾	.01⅞	.01¾	.01⅞
36-38 straw	.01⅞	.02	.01⅞	.02
38-40 straw	.02	.02⅛	.02	.02⅛
39-41 prime white	.02⅛	.02¼	.02⅛	.02¼
NORTH TEXAS—				
38-40 straw	.02⅛	.02¼	.02⅛	.02¼
‡NORTH LOUISIANA—				
36-40	.02¼	.02⅜	.02¼	.02½
‡ARKANSAS—				
32-36	.02	.02¼	.02	.02¼
CHICAGO (Based on Group 3)—				
32-36 straw	.01¾	.02	.01⅞	.02
38-40 straw	.01⅞	.02¼	.02	.02⅛
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03½		.03½	
NEW YORK (Bayonne, N. J.)—				
32-36	.03½		.03½	
36-40	.04½		.04¼	.04½

*Above prices are for furnace oils of zero cold test, under 190° F. flash and good odor.

‡For Arkansas, Louisiana and Mississippi delivery.

GAS OIL, DIESEL OIL AND FUEL OIL

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
32-36 (G.O.) cracking stock	.01	.01⅛	.01	.01⅛
U.G.I. (G.O.)	.01	.01⅛	.01	.01⅛
32-36, Zero to 15 (G.O.) high flash	.01¼	.01⅜	.01¼	.01⅜
28-30, Zero to 10	.45	.50	.45	.50
26-30 zero to 10	.40	.50	.40	.50
24-26	.37½	.42½	.37½	.42½
20-22	.27½	.32½	.27½	.32½
16-20	.25	.27½	.25	.27½
Below 16	.22½	.25	.22½	.25
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅜		.01⅛	
22-26	.40	.45	.40	.45
Below 20	.30	.35	.30	.35
‡NORTH LOUISIANA—				
30-32 (G.O.) zero	.02	.02⅛	.02	.02¼
14-16	.35	.40	.30	.40
‡ARKANSAS—				
30-32 (C.O.) zero	.02		.02	
14-16	.35	.40	.40	.45
CHICAGO (Based on Group 3)—				
32-36 (G.O.) industrial	.01⅛	.01¼	.01⅛	.01¼
28-30 (zero)	.55	.60	.55	.60
PENNSYLVANIA (inland refineries)—				
36-40	.02⅞			
22-26	.32½	.37½	.32½	.37½
18-22	.25	.30	.25	.30
Below 18	.20	.25	.20	.25

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

‡For Louisiana, Arkansas and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.80	1.00	.80	1.00
27 plus Diesel	.75	.95	.75	.95
15-19 bunker (at tidewater)	.55	.75	.55	.75
15-19 bunker (cargo lots)	.55	.70	.55	.70
15-19 (tank cars)	.40	.70	.40	.70
GULF COAST—				
28-30 (G.O.)	.02¼	.02½	.02¼	.02½
Bunker C (bulk cargoes)	.38	.40	.38	.40
Bunker C (bunkers)	.45		.45	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.03½	.04	.03½	.04
*28-30 Diesel	1.30		1.30	
†Bunker C	.60		.60	

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

PETROLEUM COKE*

Prices per ton f.o.b. refineries in Chicago area.

	Mar. 8		Mar. 1	
Breeze (screenings)	3.75		3.75	
Still runs	4.75		4.75	
Lump and egg	7.00	7.50	7.00	7.50

*Refiners will absorb freight up to 80 cents a ton.

NEUTRAL OILS

(Viscosity at 100° F., and Color)

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07½	.07¾	.07½	.07¾
180-4	.07	.07¼	.07	.07¼
200-3	.08½		.08½	
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09¼	.09½	.09¼	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
300-3.5	.11¾	.12	.11¾	.12
350-3.5	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4.5	.13¼	.13½	.13¼	.13½
100-2 Paraffin Oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07¾	.08	.07¾	.08
200-4	.07½	.07¾	.07½	.07¾
240-3	.09¼	.09½	.09¼	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
Viscosity at 70° F., and Color:				
150-3	.14	.14½	.13	.13½
180-3	.16½	.17½	.16	.17
200-3	.18½	.19½	.18	.18½
220-3	.22	.23	.21	.21½
36 Miners Neutral	.05½		.05½	
34 Neutral	.05½		.05½	
34 Sundebloom Neutral	.05		.05	
GULF COAST—				
Pale Oils:				
100-2-2½	.04½	.05	.04½	.05
200-3	.06	.06¼	.06	.06¼
300-3	.06½	.07	.06½	.07
500-3½	.08	.08½	.08	.08½
750-3½	.09	.09½	.09	.09½
1,200-3½	.10½	.11	.10½	.11
2,000-4	.12	.12½	.12	.12½
Red Oils:				
200-5-6	.05	.05½	.05	.05½
300-5-6	.05½	.06	.05½	.06
500-5-6	.06¾	.07	.06¾	.07
1,200-5-6	.09½	.10	.09½	.10
2,000-6 plus	.11	.11½	.11	.11½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.08	.08¼	.08	.08¼
200-2½-3	.08	.08¼	.08	.08¼
300-3-3½	.08½	.08¾	.08½	.08¾
350-3-4	.09	.09¼	.09	.09¼
400-3-4	.09½	.09¾	.09½	.09¾
350-3-4	.10	.10¼	.10	.10¼
550-3-4	.10½	.11	.10½	.11
Red Oils:				
200-4½-5	.08	.08¼	.08	.08¼
300-5-6	.08½	.08¾	.08½	.08¾
350-5-6	.09	.09¼	.09	.09¼

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

400-5-6	.09½	.09¾	.09½	.09¾
450-5-6	.10	.10¼	.10	.10¼
500-5-6	.10½	.11	.10½	.11
600-5-6½	.11½	.12	.11½	.12
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.13	.13½	.13	.13½
900-6½ plus	.14½	.14¾	.14½	.14¾
NEW YORK (Bayonne, N. J.)—				
Paraffin Oil:				
25 pale	.10¼		.10¼	
28 pale	.07¼		.07¼	
280 red	.12½		.12½	
250 red	.11½		.11½	
225 red	.10		.10	
200 red	.09¼		.09¼	

BRIGHT STOCKS AND STEAM REFINED STOCKS

OKLAHOMA (Group 3)—	Mar. 8		Mar. 1	
600 light green S.R.	.04	.06	.04	.06
600 dark green S.R	.03	.04½	.03	.04½
Bright Stock:				
190-200 D	.17½	.18	.17½	.18
150-160 D, 0-10	.15½	.16	.15½	.16
150-160 D, 10-25	.15	.15½	.15	.15½
150-160 D, 25-40	.14½	.15	.14½	.15
150-160 E	.14¾	.15	.14¾	.15
PENNSYLVANIA—				
600 S.R.	.13½		.13	.13½
650 S.R.	.15½	.15¾	.15	.15½
600 Pennsylvania flash	.16½	.16¾	.16	.16½
600 D filtered	.20	.20½	.19½	.20
600 E filtered	.15¾	.16	.15½	.16
Pennsylvania Grade Bright Stock:				
10-15 pour test	.25		.25	
25-30 pour test	.22	.23	.22	.23
35 and above	.22		.21½	.22½

WAX AND PETROLATUM

(Prices per pound)

OKLAHOMA (Group 3)—	Mar. 8	Mar. 1
124-126 white crude scale	.01¾	.01¾
PENNSYLVANIA—		
At New York:		
122-124	.0205	.02⅛
124-126	.0205	.02⅛
NEW YORK (Bayonne, N. J.)—		
Refined Wax:		
120-122	.02⅝	.02⅝
125-127	.02⅞	.02⅞
130-132	.02⅜	.02⅜
133-135	.04	.04
135-137	.04⅛	.04⅛
Petrolatum in barrels in carload lots:		
Dark green	.01¾	.01¾
Amber	.02⅛	.02⅛
Extra amber	.02⅝	.02⅝
Cream	.04¾	.04¾
Lily white	.05¾	.05¾
Snow white	.06¾	.06¾

EXPORT PRICES

GASOLINE

GULF COAST—	Mar. 8		Mar. 1	
U. S. Motor	.04⅛	.04¼	.04⅛	.04¼
60-62 400	.04¾		.04¼	.04⅜
61-63 390	.04¾		.04¾	
64-66 375	.04⅜	.04½	.04⅜	.04½
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.03¾	.04¼	.03¾	.04
U. S. Motor, 65 octane num.	.05		.05	
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-62 400 endpoint gasoline	.04¼	.04¾	.04¼	.04¾

KEROSENE

GULF COAST—				
41-43 prime white	.04¼		.04	
41 water white	.04		.04¼	
LOS ANGELES, CALIF.—				
41-43 water white	.04	.04¾	.04	.04¾

LUBRICANTS

NEN YORK (Bayonne, N. J.)—				
600, steam refined cylinder stocks, in bbls.	.19	.20	.19	.20
650, steam refined	.22½	.23	.22½	.23
600, Pennsylvania flash	.23	.24	.23	.24
630, Pennsylvania flash	.26	.27	.26	.27
600, Warren E	.22½	.23	.22½	.23
600, Oil City E	.21½	.22	.21½	.22
Light 140-150 Bright Stocks	.28	.29	.28	.29
Dark 140-150 Bright Stocks	.27	.28	.27	.28

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) for allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931, at 7 a.m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea, Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills Buena Vista Hills	Lost Hills
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	...	$.55	$.55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.66	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$.65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	...	.76	...	...	.71	.65	.66	.65
27-27.9	.75	.75	.76	...	.78	...	...	.73	.68	.68	.67
28-28.9	.77	...	...	...	.80	...	...	.75	.71	.71	.69
29-29.9	.79	...	...	...	...	...	...	.77	.73	.74	.71
30-30.9	.81	...	...	...	...	...	...	.79	.75	.76	.72
31-31.9	...	...	...	...	...	...	...	...	.78	...	...
32-32.9	...	...	...	...	...	...	...	...	.80	...	...
33-33.9	...	...	...	...	...	...	...	...	.83	...	...
34-34.9	...	...	...	...	...	...	...	...	.85	...	...
35-35.9	...	...	...	...	...	...	...	...	.87	...	...

Standard Oil Co. of California prices in other fields:

Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).

Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).

Montebello—65 cents for all grades (14° to 25.9°).

Whittier and LaHabra—65 cents for all grades (14° to 22.9°).

Elwood Terrace, f.o.b. ship—33° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above, 87 cents.

Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

(Continued on Page 74)

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Nov. 2, 1931)†	$ .83
Corsicana, heavy (Nov. 2, 1931)*	.49
Other fields	See gravity table

†Posted by Panola Pipe Line Co., Magnolia Petroleum Co., Tidal Refining Co., Sinclair Refining Co., Gulf Pipe Line Co., Atlas Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$1.85
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.55
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) (Feb. 26, 1932)	1.50
Penna Grade Oil in Buckeye Pipe Line Lines (March 1, 1932)	1.30
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Nov. 9, 1931)	.85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931)	.80
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931)	1.17

Tide Water Pipe Co.

(Effective December 16, 1931)

Bradford, Pa.	$1.85
Allegany, N. Y.	1.85

Pure Oil Co.

(Effective December 16, 1931)

Cabin Creek, W. Va.	$1.45
Bradford Hollow, W. Va.	1.45
Kelly's Creek, W. Va.	1.45

Pennzoil Co.

(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.80
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	$1.79
Includes Titusville district.	
Group C	$1.78
Includes Turkey and Tidiout districts.	
Group D	$1.77
Includes Bear Creek and Porkey districts.	
Group E	$1.75
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jamieson, Kennerdell, Emienton, Tiona, Lacy and Kinzua districts.	

Price depends on length of pipe line haul to plant at Oil City.

CRUDE OIL GRAVITY TABLE

Gravity	Kansas and Oklahoma 1	North and Central Texas 2	East Central Texas 3	Gray County, Texas 4	Carson and Hutchinson Counties, Texas 5	Salt Creek, Wyo. 6	North Louisiana and Arkansas 7	Gulf Coast (Tex. and La.) 8	Cameron Meadows, La. 9
Below 25 degrees	...	...	...	...	...	...	...	$.70	$.60
25-25.9 degrees	...	...	...	...	...	...	...	.71	.60
26-26.9 degrees	...	...	...	...	...	...	...	.72	.61
27-27.9 degrees	...	...	...	...	...	...	...	.73	.62
28-28.9 degrees	...	...	...	...	...	...	...	.74	.63
Below 29 degrees	$.61	$.61	$.61	...	...	$.61	$.61	...	...
29-29.9 degrees	.63	.63	.63	...	...	.63	.63	.75	.64
30-30.9 degrees	.65	.65	.65	...	...	.65	.65	.76	.65
31-31.9 degrees	.67	.67	.67	...	...	.67	.67	.77	.66
32-32.9 degrees	.69	.69	.69	...	...	.69	.69	.78	.67
33-33.9 degrees	.71	.71	.71	...	...	.71	.71	.79	.68
34-34.9 degrees	.73	.73	.73	$.61	$.56	.73	.73	.80	.69
35-35.9 degrees	.75	.75	.75	.63	.58	.75	.75	.81	.70
36-36.9 degrees	.77	.77	.77	.65	.60	.77	.77	.82	.71
37-37.9 degrees	.79	.79	.79	.67	.62	.79	.79	.83	.72
38-38.9 degrees	.81	.81	.81	.69	.64	.79	.81	.84	.73
39-39.9 degrees	.83	.83	.83	.71	.66	.79	.83	.85	.74
40 degrees and over	.85	.85	.85	.73	.68	.79	.85	.86	.75

Column 1—Led by Continental Oil Co. effective November 2, 1931, and adopted on same day by other companies excepting Magnolia Petroleum Co. and White Eagle Oil Corp. and excepting that Carter Oil Co., Gypsy Oil Co. and Pure Oil Co. started their schedule at below 25 degrees, 53 cents; 25 degrees, 55 cents; with 2 cents added for each degree upward to 40 degrees and above at 85 cents. Magnolia Petroleum Co. adopted the price schedule in Oklahoma on January 8, 1932, and the White Eagle Oil Corp. in Kansas on January 1, 1932, on oil from 29 degrees upward, but posted 52 cents for oil below 28 gravity and 54 cents for 28 gravity.

Column 2—Led by Continental Oil Co. effective November 2, 1931, and followed by other purchasers on same day excepting Magnolia Petroleum Co. which met the prices on January 8, 1932, from 29 degrees upward, posting 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 3—Humble Oil & Refining Co. on November 2, and by other buyers excepting Magnolia Petroleum Co., which met the prices from 29 degrees upward on January 8, 1932, but posted 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 4—Led by The Texas Company, November 2, followed by Humble Oil & Refining Co., Gulf Pipe Line Co. and H. F. Wilcox Oil & Gas Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 5—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co. and Gulf Pipe Line Co. Magnolia Petroleum Co., January 8, 1932.

Column 6—Midwest Refining Co., November 2.

Column 7—Standard Oil Co. of Louisiana, November 4, 1931; The Texas Company, Gulf Refining Co. and Louisiana Oil Refining Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 8—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Sun Oil Co., but two last named companies' schedules stop at 35 degrees and above at 81 cents, and the Sinclair Refining Co., but latter company's schedule stops at 31 degrees and above at 71 cents. Magnolia Petroleum Co. applied this schedule to Lockport and Iowa, La.

Column 9—Magnolia Petroleum Co., January 8, 1932.

TEXAS PANHANDLE

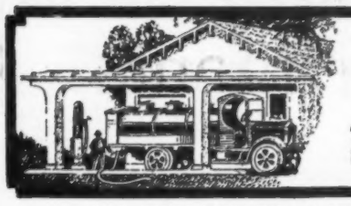
Gray County, Wheeler County and Carson-Hutchison Counties	See gravity table

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931)	$ .75
Iles, heavy (Aug. 24, 1931)	.53
Fort Collins (Nov. 3, 1931)	.71
Florence (Nov. 2, 1931)	.65
Wellington (Nov. 3, 1931)	.61
Dutton Creek (Nov. 3, 1931)	.75
Rock Creek, Wyo. (Nov. 3, 1931)	.85
Frannie, light (Nov. 3, 1931)	.61
Frannie, heavy (Nov. 3, 1931)	.51
Salt Creek—Mid-Continent gravity table	
Big Muddy (Nov. 3, 1931)	.33
Grass Creek (Nov. 3, 1931)	1.05
Elk Basin (Nov. 3, 1931)	1.05
Lance Creek (Aug. 24, 1931)	1.05
Poison Spider (Mar. 5, 1931)	.70
Notches (Mar. 14, 1927)	.65
Hudson (June 3, 1931)	.65
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Apr. 15, 1931)	.98
Lost Soldier (Nov. 3, 1931)	.69
Hamilton Dome (Nov. 3, 1931)	.45
Greybull (Nov. 3, 1931)	1.05
Cat Creek (Nov. 3, 1931)	1.05
Pondera (Nov. 3, 1931)	.90
Sunburst, Mont. (Nov. 3, 1931)	1.00
Hogback, N. Mex. (Aug. 24, 1931)	.80
Lea County, N. Mex. (Nov. 3, 1931)	.50
Border, Mont.	1.55
Red Coulee, Alberta	1.55
Dry Creek, Mont. (Aug. 24, 1931)	1.00
Maljamar (Aug. 22, 1931)	1.00

(Continued on Page 70)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns March 8.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	15.0	15.0	3.0	9.0
Decatur, Ill.	15.5	15.5	3.0	9.1
E. St. Louis	14.8	14.8	3.0	8.3
Joliet	15.5	15.5	3.0	9.1
Peoria	15.5	15.5	3.0	9.1
Quincy	15.3	15.3	3.0	8.9
Davenport, Ia.	15.6	15.6	3.0	9.4
Des Moines	15.6	15.6	3.0	8.1
Keokuk	15.6	15.6	3.0	6.4
Sioux City	15.2	15.2	3.0	9.0
Duluth, Minn.	15.6	16.5	3.0	10.0
Mankato	16.2	16.2	3.0	8.1
Minneapolis	16.3	16.3	3.0	10.0
LaCross, Wis.	17.3	17.3	4.0	10.1
Milwaukee	16.2	16.2	4.0	9.0
Madison	16.4	16.4	4.0	9.2
Detroit, Mich.	14.5	14.5	3.0	9.1
Grand Rapids	14.8	14.8	3.0	10.7
Saginaw	13.2	13.2	3.0	10.9
Evansville, Ind.	16.2	15.6	4.0	10.0
Indianapolis	16.4	16.4	4.0	10.2
South Bend	16.5	16.5	4.0	8.1
Fargo, N. D.	18.0	18.0	3.0	12.0
Huron, S. D.	17.4	16.0	4.0	10.8
Sioux Falls	16.9	16.9	4.0	10.5
K. C., Mo.	15.0	15.0	3.0	7.9
Springfield*	15.0	15.0	3.0	7.0
St. Louis*	14.0	14.0	3.0	8.4
St. Joseph	14.6	14.6	3.0	7.6
Wichita, Kans.	13.9	13.9	3.0	6.1
Bartlesville, Ok.	13.1	15.1	4.0	7.1

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 400 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	15.0	16.0	4.0	9.00
Fort Worth	15.0	16.0	4.0	8.0
Houston	12.0	15.0	4.0	9.0
San Anotnio	14.0	16.0	4.0	8.0
El Paso	12.0	14.0	4.0	11.0
Texarkana	*16.0	16.0	4.0	8.0
Muskogee, Ok.	11.0	13.0	4.0	7.0
Okla. City	13.0	15.0	4.0	7.0
Tulsa	13.0	15.0	4.0	8.0
Ft. Smith, Ark.	*16.5	16.5	5.0	*11.0
Little Rock	*17.5	16.5	6.0	9.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2 cents to dealers.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	14.0	17.0	4.0	12.5
Pueblo	14.0	17.0	4.0	12.0
Grand Jctn.	18.0	21.0	4.0	14.5
Casper, Wyo.	15.0	18.0	4.0	10.0
Cheyenne	13.0	16.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.0
Billings	18.0	21.0	5.0	14.5
Great Falls	21.0	23.0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N. M.	17.0	20.0	6.0	14.0
Boise, Idaho	21.0	24.0	5.0	18.0
Twin Falls*	21.0	24.0	5.0	18.0

*3½-cent discount off tank wagon to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	15.5	16.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	15.0	16.0	3.0	11.0
Philadelphia	14.0	15.0	3.0	11.0
Scranton	15.0	16.0	3.0	11.0
Allentown	15.0	16.0	3.0	11.0
Altoona	15.0	16.0	3.0	11.0
Erie	15.0	16.0	3.0	11.0
Dover, Del.	15.0	16.0	3.0	11.0
Wilmington	15.0	16.0	3.0	11.0
Springf'd, Mass.	15.5	16.5	3.0	8.5
Worcester	15.3	16.3	3.0	8.5
Boston	14.5	15.5	3.0	9.5
Providence, R.I.	13.5	14.5	2.0	8.5
Hartford, Conn.	14.5	15.5	2.0	10.0
New Haven	14.6	15.6	2.0	10.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.*	19.5	19.5	6.0	9.0
Augusta	20.0	21.0	6.0	14.0
Macon	20.0	20.0	6.0	12.0
Savannah	19.0	19.0	6.0	11.0
Birm'ham, Ala.	20.5	20.5	6.0	10.0
Mobile	20.0	20.0	5.0	10.0
Montgomery	21.5	21.5	6.0	13.5
Jackson, Miss.	16.0	17.0	5.5	11.5
Vicksburg	18.0	16.5	5.5	8.0
Jack'ville, Fla.	19.0	20.0	7.0	11.0
Miami	21.0	22.0	7.0	13.0
Pensacola	20.0	20.0	7.0	13.0
Tampa	19.0	19.0	7.0	14.0
Lexington, Ky.	17.0	18.0	5.0	10.0
Covington	16.0	17.0	5.0	10.0
Louisville	15.0	16.0	5.0	10.0
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective April 2 price to dealers 3 cents under posted tank wagon price.

*An additional discount of 1 cent is offered to dealers effective October 6.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	15.7	16.2	3.0	11.5
Newark	14.7	15.2	3.0	8.5
Annapolis, Md.	16.2	16.7	4.0	10.0
Baltimore	15.4	15.9	4.0	8.0
Cumberland	17.2	17.7	4.0	12.0
Wash'g'n, D. C.	13.9	14.4	2.0	10.0
Danville, Va.	18.0	18.5	5.0	11.5
Norfolk	16.5	17.0	5.0	10.2
Petersburg	17.5	18.0	5.0	11.3
Richmond	16.5	17.5	5.0	10.7
Roanoke	18.2	18.7	5.0	12.0
Charles'n, W.Va.	16.7	17.2	4.0	11.5
Parkersburg	15.4	15.9	4.0	10.2
Wheeling	16.6	17.1	4.0	11.4
Charlotte, N. C.	19.0	19.0	6.0	10.7
Hickory	19.8	20.3	6.0	12.6
Mt. Airy	19.7	20.2	6.0	12.5
Raleigh	19.4	19.9	6.0	12.2
Salisbury	19.7	20.2	6.0	12.5
Charleston, S.C.	17.5	18.0	6.0	10.3
Columbia	19.4	19.9	6.0	12.2
Spartanburg	19.7	20.2	6.0	12.5

Two and one-half cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and States of Maryland and New Jersey, where discount is 3½ cents.

Prices shown above are for standard gasoline.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	12.3	14.3	2.0	14.3
Buffalo	15.3	15.8	3.0	14.8
Rochester	16.0	16.0	3.0	14.0
Syracuse	16.3	16.8	3.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	18.8	18.8	4.0	14.8
Manch'tr, N. H.	18.4	18.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

PACIFIC COAST TERRITORY

Standard Oil Co. of California*

	Gasoline: Tank truck	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
Fresno	12.5	16.5	3.0	17.0
San Francisco	12.5	16.5	3.0	15.5
Los Angeles	12.0	16.0	3.0	15.5
Reno, Nev.	16.0	20.0	4.0	19.0
Portland, Ore.	14.0	18.0	4.0	16.5
Seattle, Wash.	15.0	19.0	5.0	16.5
Tacoma	15.0	19.0	5.0	16.5
Spokane	18.5	22.5	5.0	20.5
Phoenix, Ariz.	14.5	17.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	16.0	16.0	6.0	†10.0
Baton Rouge	16.5	16.5	5.0	†12.0
Alexandria	16.0	16.0	6.0	†12.0
Lafayette*	17.5	17.5	6.0	†10.0
Lake Charles*	16.5	16.5	6.0	†12.0
Shreveport	14.5	14.5	5.0	†12.0
Knoxville, Tenn.	21.0	21.0	7.0	13.5
Memphis	17.5	17.5	7.0	11.0
Chattanooga	20.5	20.5	7.0	11.0
Nashville	20.0	20.0	7.0	12.5
Bristol	19.5	19.5	7.0	14.0
Lt. Rock, Ark.	17.5	17.5	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Kerosene prices in Louisiana include 1 cent tax except New Orleans where tax is 2 cents.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	14.9	15.9	4.0	9.25
McCook	17.0	17.0	4.0	7.5
Norfolk	16.75	17.75	4.0	9.75
N. Platte	17.75	18.75	4.0	10.50
Scottsbluff	17.0	17.0	4.0	9.0

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10.7	6.23
V.M.P. naphtha	12.7	7.73
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.ob. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 3.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 38-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Continental Oil Co., effective March 1, advanced gasoline tank wagon and service station prices 2 cents at Pueblo and

(Continued on Page 78)

CRUDE OIL PRICES

(Continued from Page 69)

Artesia-Jackson (Nov. 3, 1931) ..... .80

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

WEST TEXAS

Iatan and Westbrook	Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties*	$ .50
Lea County, N. Mex.‡	.50
Toborg, Pecos County, Aug. 25, 1931†	.35

*The Texas Company, November 2, 1931; Magnolia Petroleum Co., Humble Oil & Refining Co., Gulf Pipe Line Co., same day. †Shell Petroleum Corp. ‡Humble Oil & Refining Co., The Texas Company, November 2, 1931.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers	
	See gravity table
Jennings, La. (Nov. 2, 1931)*	$ .45
Lockport, La. (Aug. 27, 1931)†	
	See Gulf Coast gravity table
Refugio, light	See gravity table
Refugio, heavy (Nov. 2, 1931)‡	.75
Markham (Nov. 2, 1931)§	.67
High Island (Nov. 2, 1931)¶	.65

*Gulf Refining Co. †Magnolia Petroleum Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Gulf Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) (Nov. 4, 1931)	$ .55
Urbana, Ark.	See note below
Bellevue, La. (June 3, 1931)	.51
Urania, La. (Nov. 2, 1931)	.50
Calion, Ark. (Aug. 22, 1931)	.52
East El Dorado, Ark. (Nov. 4, 1931)	.55
Stephens, Ark., below 29° (Aug. 24, 1931)	.41
Stephens, Ark., 29° and above (Aug. 24, 1931)	.44
Other fields	See gravity table

Note—Smackover, all grades, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co., Bellevue posted by Magnolia Petroleum Co.; Urania by H. L. Hunt, Inc., and Louisiana Oil Refining Co.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co.; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Nov. 2, 1931)‡	$ .60
Luling (Nov. 2, 1931)†	.40
Mirando (Nov. 2, 1931)†	.75
Pettus (Nov. 2, 1931)*	.85
Salt Flat (Nov. 2, 1931)*	.40
Thrall§	
Lytton Springs (Lockhart)	See gravity table
Dobrowolski¶	
	Same as Mid-Continent gravity scale up to and including 38-38.9°.
Somerset¶	
	Same as Mid-Continent gravity scale up to and including 38-38.9°.

‡The Texas Company. *Humble Oil & Refining. †Magnolia Petroleum Co. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ‖Pioneer Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective November 3, 1931)

Lima	$1.00
Wooster	1.15
Illinois	.95
Indiana	.80
Princeton	.95
Plymouth	Shut in
Western Kentucky	.90
Midland, Mich. (Oct. 9, 1931)*	.55
Dundee, Mich.†	
	Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale
Upper and Lower Traverse Sands, Mich.†	Same as Mid-Continent gravity scale
Somerset, Ky. (Nov. 4, 1931)	.80
Hart County, Ky. (Jan. 18, 1932)§	.40

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. §Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

MEXICO

Panuco*	$ .45

*F.o.b. ship, based on February transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 3, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Aug. 24, 1931):	
Turner Valley†:	
Crude oil 45-45.9	2.01
Crude oil 50 and above	2.65
Crude naphtha	3.13
Discolored naphtha	2.81

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Of Interest to Sales Departments

Million Barrels Of Oil Products To Japs in March

LOS ANGELES, Calif., Mar. 5.—Tanker shipments of crude oil and refined products from California ports in March will total at least 1,000,000 bbls. This is approximately double the usual monthly shipments last year. The shipments have shown a steady increase since the start of the Japan-China hostilities and it is possible that additional orders will be placed for immediate movement.

Practically all of these trip charters were made at the surprising low rate of 27 cents per barrel for the 4,800-mile haul from California to Japan, as compared to rates ranging between 56 to 60 cents per barrel previously. Petroleum charter rates in California-Japan trade have declined to their present figures from top prices of $1.33 in 1927-28.

Most of the March loadings for Japan are reported to be for account of the Japanese navy, two shiploads in addition going to Japanese naval tankers, the Erimo and Hayatomo. The only outside charter reported is that of the Norwegian motor tanker Binta, to load a gasoline and kerosene cargo about the 28th inst. at the local Texas Company terminals for Australia.

Southern California oil companies naturally are interested in the increased demand from Japanese sources as an outlet for surplus stocks. The Union Oil Co., The Texas Company and Associated are reported as the largest shippers to Japan from this port, while the Rio Grande Oil Co. is reported to have made shipments of Elwood crude.

EXPORT MARKET ACTIVE

NEW YORK, Mar. 5.—Activity in the tanker charter market during the past week indicated more activity in the export market in this country, and several additional tanker fixtures for the movement of crude oil out of the Gulf are reported pending.

Fixtures reported during the week were as follows:

Motorship Bisca (Nor.), 3,578 tons net, clean, California to Australia and/or New Zealand, 16s., March/April loading.

Steamer Petroil (Greek), 2,637 tons net, crude tar, Kearny, N. J., to the Mediterranean, p.t., March 10-25 loading.

Motorship Sliedrecht (Dutch), 2,935 tons net, clean, North Atlantic to Ghent and Rouen, p.t., prompt loading.

Motorship Adellen (Br.), 4,735 tons net, dirty, Gulf to the Continent, 7s. 6d., April loading.

Steamer ———, 10,000/12,000 tons, fuel oil, two voyages, Gulf to Coryton (Thames), lump sum, equal to 8s., 6d., June/July and October/November loading.

Motorship Norfold (Nor.), 9,000 tons, dirty, Black Sea to the Continent, 7s., prompt loading.

Motorship Abadan (Swed.), 6,500 tons, clean, Black Sea to the Helsingborg-Stockholm range, basis 8s. 9d., March loading.

BUILDING LAKE FLEET

NEW YORK, Mar. 5.—Shell Co. of Canada, Ltd., is builing a fleet of lake tankers for the transportation of gasoline and other refined products from its Montreal bulk plant to ports on the Great Lakes. The first tanker of the lake fleet, the "Lakeshell," was recently completed at Newcastle-on-Tyne, and other vessels are now in process of construction, it is understood.

R. M. PARKER WITH HARTOL

NEW YORK, Mar. 5.—Raymond M. Parker, Jr., has resigned his position as vice president of Richfield Oil Corp. of New York and has become vice president in charge of sales for Hartol Products Corp. and Hartol Refining Corp., with headquarters in New York. He succeeds H. B. Van Cleve, who recently resigned.

Mr. Parker is well known in local marketing circles. Prior to his association with Richfield of New York, he was associated with A. C. Woodman in Acewood Petroleum Company, which was taken over with Walburn Petroleum Co. as the nucleus for Richfield Oil Corp. of New York. Mr. Parker was earlier identified with the old Union Oil Co. of Pennsylvania and later with the Sinclair organization, when Sinclair took over the Union company.

PROTEST IMPORT DUTY

NEW YORK, Mar. 5.—Consuming industries are planning protests against the imposition of an import duty on mineral oil, and are citing numerous instances in which the Government has designated mineral oil as being outside of the pharmaceutical classification.

"Drug and Cosmetic Industry" this week says: "A ruling by the Secretary of the Treasury that mineral oil, or whale oil, is medicinal in character and therefore is assessed for duty at 25 per cent ad valorem under paragraph 5 of the tariff act has created a furor in the drug and cosmetic industry. Not only because mineral oil in the opinion of practically everyone in the industry is not a medicine, and because large quantities of mineral oil imported are used for production of cosmetics, rayon, apple spraying, etc., is the decision regarded as absolutely foolish and unjustified, but also because the oil is specifically provided for in a paragraph on the free list."

MERGE SYLVESTRE UNITS

NEW YORK, Mar. 5.—Sylvestre Utilities Co., Inc., has consolidated, for the sake of simplification, the business of the Sylvestre Oil Co., Inc., and Sylvestre Transport Co., with the latter company to be dissolved.

Sylvestre Oil Co., now a subsidiary of Colonial-Beacon Oil Co. (which in turn is a unit of Standard Oil Co. of New Jersey) was incorporated here in 1925 to engage in the wholesale and retail distribution of oil products. The company specializes in furnace oil, and has bulk plants in Brooklyn, Mount Vernon and White Plains, with aggregate capacity for 2,521,246 gallons. Sylvestre Oil Terminal Co., Inc., another Sylvestre unit, is also controlled by Colonial-Beacon.

REDUCES REFINERY COSTS

The Simms Petroleum Co., with refineries at Dallas, Tex., and Smackover, Ark., has been able to reduce the per barrel cost of refining from 45.9 cents to 30 cents according to a statement to stockholders by Edward T. Moore, president. The two refineries each have skimming and cracking equipment. The gasoline yield from the crude oil at the refineries in 1931 was 56 per cent which was substantially higher than the recovery in 1930.

The Simms company was also able to reduce costs in its crude oil production and marketing departments, according to Mr. Moore. The average cost of its own production in 1930 was 28 cents per barrel and this was reduced to 17 cents in 1931. The reduction in marketing costs was approximately 25 per cent.

BUSES TOTAL 45,400

There were 45,400 buses in public carrier service at the end of 1931 in United States, according to Bus Transportation. The buses, which with trucks are the largest per unit users of gasoline and motor oils, are divided into three groups, including 14,050 in city service, 28,350 in intercity service and 3,000 operated by sightseeing lines. There was an increase of 750 over the number of buses in operation at the close of 1930.

Volume of bus traffic fell off in the course of the year from 5 to 8 per cent. The 1931 total of 1,726,000,000 passengers compares with 1,784,000,000 in 1930. The average fare paid by each passenger amounted to slightly more than 17 cents. The average rate of fare per mile last year was 2.85 cents. This compares with 2.89 cents in 1930 and 3 cents in 1929.

FORM COASTAL COMPANY

NEW YORK, Mar. 5.—Coastal Oil Co. has been organized here to conduct a general domestic and export marketing business. The new company, with headquarters in the Chrysler Building, was formed by H. B. Hilts, for the past three years with Warner-Quinlan Co., and previous to that associated with Republic Oil & Refining Co.

The new company will sell in the tank car market here later on, and will probably locate a storage terminal in the New York harbor district.

Coastal Petroleum Co. is not connected with Coastal Petroleum Corp., which started operation of a new refinery at Mobile, Ala., on March 1.

ELECT ALI PRESIDENT

Announcement is made of the election of George D. Ali as president of the Standard Vacuum Transportation Co., at the regular March 1 meeting of the company. Other officers elected are: James J. McGuire, vice president; Walter E. Simpson, vice president and Charles H. Kunze, secretary.

The Standard Vacuum Transportation Co. is a subsidiary of the Socony Vacuum Corp., in charge of the marine equipment of the parent company.

CANADIAN GASOLINE PROBE

CHATHAM, Ontario, Mar. 5.—The Banking and Commerce Committee of the federal parliament named to investigate gasoline prices in Canada met this week with R. C. Matthews, M. P., as chairman. The opening session to hear evidence was scheduled for March 8, the first testimony being furnished by Imperial Oil, Ltd.

BUYS RE-REFINED OILS

The Keystone Oil Refining Co. of Detroit, producing motor oils that are re-refined from crankcase drainings, was awarded contracts for supplying U. S. Air Corps stations at 11 points scattered throughout the United States east of the Rocky Mountains. In all, the gallonage totals 60,000, and shipment is for three months.

VACUUM COMPLETES TERMINAL

NEW YORK, Mar. 5.—Vacuum Oil Co. Proprietary, Ltd., has completed its bulk terminal at Birkenhead, South Australia, constructed at an expenditure of more than $800,000. The plant includes a compounding plant for compounding of oils and greases. The storage plant is comprised of nine tanks with aggregate capacity of approximately 4,250,000 gallons.

Organize National Association With Certified Dealers

A plan of selective service, designed to help dealers serving the motoring public, was announced recently by the National Association of Certified Dealers, a newly organized association of independent retailers dealing with the traveling public. The association is identifying its dealer members as offering "Certified Tourist Service," under a plan of major operation on every improved highway in the United States. It is claimed to be an organization founded for its members and run by the members. Headquarters are at St. Louis.

Among those businesses which will be selected to serve as units of the national organization will be filling stations, garages, hotels, tourist camps and restaurants. Through this national organization of dealers, every authorized member will be instantly recognized as an established unit, accruing to the benefit of every town and community, as well as to the motorist.

Membership to the N.A.C.D. is highly selective. The dealers chosen will be those ideally equipped to give every kind of service that will be completely satisfactory to the tourist and meet the standards of the association. N.A.C.D. members pledge themselves to give the traveling public honest, conscientious service and fair dealing at all times. Failure to adhere strictly to this service pledge carries with it immediate expulsion from the national organization. Every member will be allowed to handle any brand of products as long as they are quality products.

This association is backed by a group of men who have spent many years in sales and merchandising problems of dealers serving the motorist. These executives, as to integrity and ability, are vouched for by a large bank in St. Louis, a reputable firm of attorneys, and a well-known firm of certified public accountants. The plan behind the association has received the endorsement of the United States Department of Commerce and Merle Thorpe, editor of Nation's Business.

A national advertising campaign is being placed. The bulk of the newspaper advertising will be placed in community and small towns wherever the N.A.C.D. members are located in addition to the metropolitan newspapers. Following the newspaper advertising, national magazines, billboards, radio, and free road, weather and map service will be used in educating motorists that they can secure the highest type service available wherever a "Certified Dealer" is located.

The N.A.C.D. members will be selected for their known integrity and ability. They will be identified by the sign of "The Little Red Man."

STATE CHAIRMEN TO MEET

CHICAGO, Mar. 8.—A meeting of all state chairmen of the northwest regional gasoline tax evasion committee will be held here March 15, it was announced today by Frank V. Martinek, assistant vice president of Standard Oil Co. (Indiana) and chairman of the committee. Chairmen will be present from the following states: Colorado, Iowa, Minnesota, Nebraska, Utah, Illinois, Kansas, Missouri, Indiana, Wisconsin, Michigan, South Dakota, Wyoming and Oklahoma. Speakers will be Paul Hadlick, secretary of the A.P.I. marketing division; Judge George F. Barrett, legal counsel of the committee; F. V. Martinek, chairman; J. P. Rooney, special investigator, and Dan Gallagher, publicity agent of the committee.

Excise Tax on Imports Of Crude, Gasoline And Lubs Reported

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 7.—Proposed taxation of petroleum and products announced by Chairman Crisp of Ways and Means Committee provides excise tax of 4 cents a gallon on lubricating oil to raise $25,000,000 and 1 cent a gallon excise tax on imported gasoline, crude and fuel oil estimated by the Treasury Department to raise $5,000,000 and by others as high as $40,000,000. These excise taxes are to become effective 15 days after the bill becomes law.

The manufacturers sales tax of 2¼ per cent becomes effective 30 days after passage of the act but would not apply on products contracted to sell before March 1 and in such cases purchaser would pay the tax.

Secretary Mills states the Treasury Department approves and will support the tax program as reported. Chairman Crisp says the bill will be considered by the House Thursday or Friday. President Wirt Franklin of the Independent Petroleum Association says 20,000,000 Americans in oil states appreciate the efforts of their friends to secure an excise tax on foreign petroleum but 1 cent tax is like a cup of broth to a starving man.

ENGINEERS TO DISCUSS OIL PIPE LINE PROBLEMS

The Mid-Continent Section of the American Society of Mechanical Engineers will hold a special pipe line meeting Thursday, March 10, at the Tulsa Club, Tulsa. This will be an all-day session starting at 9 a.m. and running through until all papers are presented. Luncheon will be served at the club at noon.

The program prepared follows:

"Pipe Line Tunnel Across the Houston Ship Channel," Frank Hadley, Sinclair-Texas Pipe Line Co.

"High Speed Diesel Installations Geared to Centrifugal Pumps," J. B. Harshman, Stanolind Pipe Line Co.

"Gear Increasers and Reducers for Crude Oil Pipe Line Pumping," John Brandt, Farrel-Birmingham Co., Inc.

"Friction Losses in Gasoline Pipe Lines," Stanley Learned, Phillips Petroleum Corp.

"Repairing Leaks in Crude Oil Lines in the Mississippi River," J. J. Boyd, Stanolind Pipe Line Co.

"Closed Cooling Water Sytems for Diesel Engines," Floyd Waterfield, Oklahoma Pipe Line Co.

"Method of Laying Lines Across the Mississippi River," J. T. English, Prairie Pipe Line Co.

"Set-up for Testing Friction Losses in Crude Oil Pipe Lines," Charles Mann, Prairie Pipe Line Co.

"Operation of Automatic Pumping Stations," A. N. Horne, Empire Pipe Line Co.

"Equivalent Lengths of Pipe Lines," W. G. Heltzel, Stanolind Pipe Line Co.

JUDGE OVERRULES PLEAS IN TEXAS OUSTER SUIT

AUSTIN, Tex., Mar. 8.—District Judge J. D. Moore late Monday overruled all pleas in abatement and pleas of misjoinder of companies in Attorney Generay James V. Allred's suit against 15 oil companies and two marketing associations for penalty and ouster because of adherence to the code of ethics on marketing practices. He denied the plea of Sinclair, Gulf and others for separate trials.

Arguments Tuesday took up the general demurrers of the respondent companies and will be devoted to the question whether the Texas antitrust statutes remain valid and effective in view of federal and state court decisions and recent legislation.

LEASES ON 157 OSAGE TRACTS WILL BE AUCTIONED MARCH 22

A public auction sale of oil leases on Osage Indian lands in Osage County, Oklahoma, will be held in Pawhuska, Okla., on Tuesday, March 22.

The lease will be made for a period of five years and "as long thereafter as oil is found in paying quantities."

The usual Osage lease requires that a well be drilled within one year from date of lease, but this rule has been suspended and purchasers of leases will be allowed five years in which to drill the first well.

There are about 9,600 wells in Osage County, producing about 30,000 bbls. per day or an average of 3.1 bbls. per day per well. Ten wells are being drilled in the county at the present time.

The acreage offered includes 157 tracts of 160 acres each, or a total of 25,120 acres. Leases are offered in every "range" from the Washington County line westward to the Pawnee, Noble and Kay County lines. A lot of wildcat acreage in the western part of the county will be offered.

The law requires that a minimum of 25,000 acres of Osage Indian lands be offered for lease annually, and this sale will fulfill that regulation.

Tract	Description	Acreage
1	NE 30-20-12	160
2	SE 30-20-12	160
3	SE 28-22-12	160
4	SW 28-22-12	160
5	NW 30-29-12	160
6	SW 30-29-12	160
7	SE 16-21-11	160
8	SW 16-21-11	160
9	SE 29-21-11	160
10	SE 28-22-11	160
11	SW 28-22-11	160
12	NW 33-22-11	160
13	SE 12-26-11	160
14	SW 12-26-11	160
15	SW 5-27-11	160
16	SE 6-27-11	160
17	NE 7-27-11	160
18	NW 8-27-11	160
19	SW 14-27-11	160
20	SE 15-27-11	160
21	SW 15-27-11	160
22	SE 20-27-11	160
23	NW 21-27-11	160
24	NE 17-28-11	160
25	NW 17-28-11	160
26	SE 17-28-11	160
27	SW 17-28-11	160
28	NE 29-28-11	160
29	NW 29-28-11	160
30	SE 29-28-11	160
31	SW 29-28-11	160
32	NE 4-20-10	160
33	SE 11-21-10	160
34	SW 12-21-10	160
35	SE 25-21-10	160
36	SE 34-21-10	160
37	NE 36-21-10	160
38	NW 36-21-10	160
39	NW 17-22-10	160
40	SE 17-22-10	160
41	SW 17-22-10	160
42	SE 10-23-10	160
43	SW 10-23-10	160
44	NE 15-23-10	160
45	SW 15-23-10	160
46	NW 24-23-10	160
47	NE 21-21- 9	160
48	NW 21-21- 9	160
49	SW 21-21- 9	160
50	NE 26-21- 9	160
51	NW 26-21- 9	160
52	SE 26-21- 9	160
53	SW 26-21- 9	160
54	NE 11-22- 9	160
55	NW 11-22- 9	160
56	SE 11-22- 9	160
57	SW 11-22- 9	160
58	SE 22-23- 9	160
59	SW 22-23- 9	160
60	NE 27-23- 9	160
61	NE 35-23- 9	160
62	NE 6-26- 9	160
63	NW 6-26- 9	160
64	SE 6-26- 9	160
65	SW 6-26- 9	160
66	NE 10-26- 9	160
67	NW 10-26- 9	160
68	SE 10-26- 9	160
69	NW 2-23- 8	160
70	SW 2-23- 8	160
71	NW 11-23- 8	160
72	NW 36-23- 8	160
73	SE 13-24- 8	160
74	NE 14-24- 8	160
75	SE 14-24- 8	160
76	NE 23-24- 8	160
77	SW 29-24- 8	160
78	NW 2-25- 8	160
79	NW 3-25- 8	160
80	SW 3-25- 8	160
81	NE 20-25- 8	160
82	NW 21-25- 8	160
83	SE 22-25- 8	160
84	SW 26-25- 8	160
85	SE 1-26- 8	160
86	NE 3-26- 8	160
87	NW 3-26- 8	160
88	SE 3-26- 8	160
89	SW 3-26- 8	160
90	NE 18-26- 8	160
91	NW 18-26- 8	160
92	SE 18-26- 8	160
93	SE 34-26- 8	160
94	NW 22-27- 8	160
95	SW 22-27- 8	160
96	NW 27-27- 8	160
97	SE 21-28- 8	160
98	SW 21-28- 8	160
99	NE 28-28- 8	160
100	NW 28-28- 8	160
101	NE 9-23- 7	160
102	NW 13-23- 7	160
103	SW 13-23- 7	160
104	NW 34-23- 7	160
105	SW 1-24- 7	160
106	NW 12-24- 7	160
107	SW 28-24- 7	160
108	NE 33-24- 7	160
109	NW 33-24- 7	160
110	NW 34-24- 7	160
111	NW 2-25- 7	160
112	NE 26-25- 7	160
113	NW 26-25- 7	160
114	SE 10-26- 7	160
115	SW 10-26- 7	160
116	NW 25-27- 7	160
117	NE 28-27- 7	160
118	SE 28-27- 7	160
119	SW 28-27- 7	160
120	NE 11-28- 7	160
121	SE 11-28- 7	160
122	NE 28-28- 7	160
123	SE 2-23- 6	160
124	SE 6-23- 6	160
125	SW 6-23- 6	160
126	NW 8-23- 6	160
127	NW 2-24- 6	160
128	SW 2-24- 6	160
129	NE 11-25- 6	160
130	NW 11-25- 6	160
131	SW 13-26- 6	160
132	SE 14-26- 6	160
133	SW 26-27- 6	160
134	NW 35-27- 6	160
135	SW 35-27- 6	160
136	NE 2-28- 6	160
137	SW 36-29- 6	160
138	NE 33-25- 5	160
139	NW 33-25- 5	160
140	SE 33-25- 5	160
141	SW 33-25- 5	160
142	NE 11-26- 5	160
143	SW 11-26- 5	160
144	NE 16-26- 5	160
145	SE 16-26- 5	160
146	NE 23-26- 4	160
147	NW 24-26- 4	160
148	SW 26-24- 3	160
149	NE 34-24- 3	160
150	NW 35-24- 3	160
151	NE 4-25- 3	160
152	NW 4-25- 3	160
153	SE 4-25- 3	160
154	SW 4-25- 3	160
155	NE 22-25- 3	160
156	SE 22-25- 3	160
157	NW 23-25- 3	160
Total		25,120

The Secretary of the Interior in his discretion may impose restrictions on oil production when necessary as conservation measures and to conform to similar restrictions imposed on other wells in Oklahoma by state authority or agreement of operators.

END CARTEL AGREEMENT

NEW YORK, Mar. 5.—Following the alleged breaking of a cartel agreement by the Soviet oil selling organization in Germany, the Benzin-Konvention, the German gasoline sales combine, has been dissolved following the withdrawal of the Shell and Standard Oil Co. (New Jersey) units, and other members. The cause of the break-up was the reported action of the Soviet in selling considerable quantities of gasoline and other products to government agencies at price levels under those established by the cartel.

Gasoline marketing facilities in Germany have been greatly overdeveloped, particularly in the service station field, and leading companies are apprehensive over the possible effects of the threatened price war.

A.P.I. MEETING IN CALIFORNIA

The Pacific Coast District of the American Petroleum Institute, Production Division, will hold its spring meeting, March 28, at the Engineers Club, Richfield Building, Los Angeles, Calif. District Chairman A. H. Bell will preside and the program will include the election of officers. A paper entitled "A Study of Rotary Drill Pipe," will be presented by H. W. Graham, of Pittsburgh, Pa.

SOUTHWESTERN NATURAL MAKES HINES PRESIDENT

W. M. Hines, who has held an important place in the Oklahoma Natural Gas Corp., has been made president of the Southwestern Natural Gas Co., whose home offices are in Tulsa. Mr. Hines has

W. M. Hines

been an active public utility executive for the past five years, first being associated with Coast Counties Gas & Electric Co. of California, and later with Pacific Public Service which operated and controlled gas properties in Washington, Oregon and California. Pacific Public Service is a subsidiary of Standard Oil Co. of California. The Southwestern Natural is a gas transporting company, and under Mr. Hines' direction is expected to broaden its service. It owns a 16-inch line from the Quinton Field to a point opposite Wainwright, Okla., where a 10-inch lateral takes off to Muskogee. A 14-inch line continues from the Muskogee lateral to Sapulpa, Tulsa and Sand Springs. This line has a capacity of 40,000,000 feet a day. The company sells gas wholesale to the Muskogee Natural Gas Co. in Muskogee and the Sapulpa Gas Co. in Sapulpa. Southwestern's largest customer is the Oklahoma Natural Gas Corp.

Mr. Hines entered the utility business with a wide background in public relations and public service. He began as a newspaper reporter and became one of the editors of the San Francisco Examiner and later publisher and business manager of the San Francisco Bulletin.

BRADFORD OIL MEN ELECT

The Bradford district Pennsylvania Oil Producers Association re-elected its board of officers at a meeting held in Bradford, Pa. The officers are: A. E. Booth, president; F. D. Dorn, first vice president; E. C. Emery, second vice president; R. T. Zook, secretary; and D. T. Andrus, treasurer. The following members of the association were appointed to constitute the executive board: A. E. Booth, F. D. Dorn, R. T. Zook, H. G. Barcroft, T. P. Thompson, Jr., R. M. Haskell, H. J. Walter, D. T. Andrus and E. C. Emery.

A. S. DEBENHAM DIES

NEW YORK, Mar. 5.—A. S. Debenham, prominently identified with the executive management of the Royal Dutch-Shell group, died at his home at Engatestone, Essex, England, according to advices from London this week. Mr. Debenham was originally with the Asiatic Petroleum Co., Ltd., was later associated with the Anglo-Saxon Petroleum Co., Ltd., and in 1921 was elected a director of both companies. He later became a director of Bataafsche Petroleum Maatschappij, the Shell Transport & Trading Co., Ltd., and other companies of the Royal Dutch-Shell group.

L. P. ST. CLAIR VIGOROUSLY COMMENTS ON CALIFORNIA

LOS ANGELES, Calif., Mar. 5.—Expressing his disgust and despair over the chaotic marketing situation in the oil industry, L. P. St. Clair, president of the Union Oil Co. of California, told stockholders at their annual meeting that the only solution he personally could see was nothing short of full state regulation such as is now applied to public utilities.

The stockholders re-elected retiring directors, the vacancy caused by the death of E. W. Clark not being filled, as the directorate was reduced from 17 members to 16. Officers were re-elected at the following board meeting.

Union Oil Associates also held its annual meeting and elected Gurney E. Newlin and A. C. Stewart, manager of specialties of Union Oil Co., as directors to fill the vacancies caused by the death of E. W. Clark and the resignation of J. S. McDonnell.

Mr. Newlin, at the directors' meeting of Union Associates, was elected president, succeeding Isaac B. Newton, chairman of the Federal Reserve Bank, San Francisco, who had served as president since the death of Mr. Clark last May. Mr. Newlin has been a director of Union Oil Co. for the past 15 years and is one of the state's most prominent attorneys, having served as president of the American Bar Association in 1928-1929.

Mr. St. Clair in his remarks hammered the industry and its leaders, declaring that instead of feeling proud he felt like hanging his head in shame when he saw what other industries accomplished. He asserted that despite the depression and the falling off of exports, the domestic business was sufficient to have provided fair earnings for the oil industry if properly managed.

Ridiculing the competition for gallonage, which results in giving away gasoline or destroying its value, Mr. St. Clair said he was interested in dollars and dividends and that if the state can regulate the marketing of gasoline on an equitable basis, the stockholders will be better off.

In the Pacific Northwest, where gasoline on a relative basis is selling below the Los Angeles price, about all the marketing is done by major companies, Mr. St. Clair pointed out in exploding the belief that the small independents are the disturbing factor.

The stockholders gathered from Mr. St. Clair's remarks that oil men have a marked aptitude in gumming up their affairs, for he asserted:

"If the Sharkey bill goes through and oil men are named on the committee, we will probably never get anywhere and may never get an order out of the committee." He then explained that the functions of the committee would chiefly be fact-finding and the application of the facts which business men would carry out without difficulty.

The Sharkey bill properly put into effect would mark an epoch and would probably demonstrate not only a solution for the troubles of the oil industry, but other industries, he added, in voicing his support of this measure designed to place curtailment on a legal, rather than voluntary, basis.

When a stockholder asked how he stood on the question of tariff on oil, Mr. St. Clair stated that the Union Oil Co. strongly favored such a tariff, but that personally he did not see that it would do any good, particularly if the industry continued in its present chaotic state. Regarding gasoline taxes, he said that the industry could stand the present taxes if not burdened further and that the proposed government tax should be opposed.

R. D. Matthews, executive vice president, reported that the company was gratified at the reception accorded the new gasoline "76" and that the sales volume on the new product was being maintained.

ARDMORE MEETING

The annual meeting of the Southern Oklahoma Oil and Gas Association was held at Ardmore with approximately 100 oil men in attendance from southern Oklahoma and northern Texas.

The following officers and directors were elected for the ensuing year: H. B. Fell, Ardmore, president; O. V. Beck, Nocona, Tex., vice president; directors: Harry Lamb, Healdton, Ward Merrick, Ardmore; George W. Strawn, Ardmore; Don Walker, Ardmore; M. K. McClure, Ardmore; Jack Travis, Duncan; Frank Gouin, Duncan; John Cowdan, Duncan; B. A. LaSalle, Ada; Fred Cougan, Sayre; Sam Emery, Duncan and C. G. Bell, Walters.

Paul Walker of the State Corporation Commission of Oklahoma and C. W. Tomlinson, vice president of the Schermerhorn-Ardmore Oil Co., were the chief speakers of the evening session. The next annual meeting is to be held at Duncan.

A. W. SAMIS DIES

CHATHAM, Ontario, Mar. 5.—Alfred Wayland Samis died recently at Calgary. Mr. Samis, who had been a resident of the Canadian West for more than 40 years, was in his younger days interested in oil operations in the Petrolia and Oil Springs Fields as field man for the McKenzie-Milne Co.

REFINERS CURTAIL RUNS TO NEW LOW

(Continued from Page 22)

REFINERY OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
Bayou State Refining Co., Hosston	750	(*)	250
Louisiana Oil Refining Co., Shreveport, Bossier	19,000	17,700	17,100
Spartan Refining Co., Shreveport	10,000	6,000	6,000
Stanolind Oil & Gas Co., Superior	3,500	3,000	3,000
The Texas Company, Shreveport	7,000	(*)	(*)
Total	40,250	26,700	26,350

*Shut down.

REFINERY OPERATIONS IN KANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
Altitude Petroleum Corp., Chanute	5,000	(*)	500
Barnsdall Refineries, Inc., Wichita	4,000	2,500	2,500
Derby Oil Co., Wichita	7,500	3,500	3,500
Eldorado Refining Co., Eldorado	4,500	2,700	2,500
Golden Rule Refining Co., Wichita	1,500	700	700
Kanotex Refining Co., Arkansas City	12,000	5,000	3,700
National Refining Co., Coffeyville	6,500	5,000	5,000
Phillips Petroleum Co., Kansas City	7,500	6,000	6,000
Shell Petroleum Corp., Arkansas City	22,000	14,000	18,000
Sinclair Refining Co., Coffeyville	12,000	8,000	8,000
Sinclair Refining Co., Argentine	9,500	(*)	(*)
Skelly Oil Co., Eldorado	23,000	10,000	10,800
Standard Oil Co. of Kansas, Neodesha	20,000	6,000	6,000
Vickers Petroleum Co., Potwin	3,500	1,500	1,700
White Eagle Oil Corp., Augusta	15,000	15,000	15,000
Total	153,500	79,900	83,900

*Shut down.

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
James H. Berry & Sons, Waterloo	2,000	1,000	1,000
Henry H. Cross Co., Smackover	6,000	4,000	4,000
Houston Oil Co., Camden	6,000	(*)	(*)
Kettle Creek Refining Co., Pearson	5,000	2,000	1,800
Lion Oil & Refining Co., El Dorado	12,000	4,000	4,000
Macmillan Petroleum Products Co., Norphlet	2,000	2,000	2,000
Ouachita Valley Refining Co., El Dorado	2,000	1,200	1,400
Root Refining Co., El Dorado†	10,000	4,000	2,700
Simms Oil Co., Smackover	3,000	2,900	2,500
Union Asphalt Co., El Dorado‡	....	....	....
Total	48,000	21,100	19,400

*Shut down. †Root refinery shut down first 15 days of December due to fire. ‡Reduces residuum purchased from Lion Oil & Refining Co., no crude run.

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
Altitude Petroleum Corp., Oklahoma City	3,000	1,000	500
Anderson-Prichard Oil Corp., Cyril	5,000	(*)	3,500
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	3,350
Barnsdall Refineries, Inc., Okmulgee	10,000	5,000	4,500
Bell Oil & Gas Co., Grandfield	4,500	1,800	1,800
Black Gold Refining Co., Oklahoma City	1,500	700	800
Capital City Refining Co., Oklahoma City	2,500	100	200
Century Petroleum Co., Tulsa	500	(*)	(*)
Century Petroleum Co., Oklahoma City	2,500	1,000	1,000
Champlin Refining Co., Enid	16,000	6,000	7,000
Continental Oil Co., Sapulpa	10,000	800	1,500
Continental Oil Co., Ponca City	30,000	8,700	10,700
Cushing Refining & Gasoline Co., Blackwell	1,800	1,500	1,200
Cushing Refining & Gasoline Co., Cushing	3,500	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,000	2,700
Empire Oil & Refining Co., Okmulgee	4,000	3,000	3,000
Empire Oil & Refining Co., Ponca City	12,000	6,800	7,500
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,200	2,000
Globe Oil & Refining Co., Blackwell	7,500	4,500	6,500
Gulf States Oil Corp., Oklahoma City	3,500	1,700	1,500
Johnson Oil Refining Co., Cleveland	6,000	3,500	4,000
McCullough Oil Co., Oklahoma City	2,000	(*)	(*)
Mid-Continent Petroleum Corp., West Tulsa	40,000	19,000	20,000
Marathon Oil Co., Boynton	2,500	(*)	(*)
Marathon Oil Co., Bristow	5,000	3,000	3,000
Sterling Refining Co., Oklahoma City	2,000	(*)	(*)
Phillips Petroleum Co., Okmulgee	5,000	4,000	4,000
Producers Oil Co., Bristow	2,500	1,000	1,000
Producers & Refiners Corp., West Tulsa	6,000	3,000	3,000
Pure Oil Co., Ardmore	5,000	2,200	2,300
Pure Oil Co., Muskogee	9,000	7,500	8,000
Rock Island Refining Co., Beckett	5,000	4,000	3,700
Sinclair Refining Co. (Pierce), Sand Springs	8,000	2,300	2,300
Sun Oil Co., Yale	5,000	3,200	3,300
Sunray Oil Co. (C. H. Wright, receiver), Allen	7,000	3,000	(*)
The Texas Company, West Tulsa	15,000	6,800	7,000
Texas Pacific Coal & Oil Co., Wynnewood	3,000	(*)	(*)
Tidal Refining Co., Drumright	15,000	7,000	7,000
Western Oil Corp., Beckett	2,000	1,200	1,200
White Oak Corp., Allen	8,000	500	(†)
Wilcox Oil & Gas Co., Bristow	5,000	3,000	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	3,300	2,650
Yale Oil Corp., Yale	2,000	400	400
York Refining Co., Oklahoma City	3,000	(*)	(*)
Total	309,300	139,700	146,600

*Shut down. †Cracking only.

REFINERY OPERATIONS IN EAST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
Arrow Refining Co., Overton	2,500	(*)	(*)
Beacon Oil & Refining Co., Henderson	2,500	1,000	1,000
Boone Refining Co., Arp	500	500	400
Central Refining Co., Friars Switch	10,000	(*)	(*)
Citizens Refining Co., Gladewater	800	(*)	(*)
Constantin Refining Co., Overton	3,000	(*)	(*)
Diamond Refining Co., Overton	3,000	300	500
East Texas Refining Co., Friars Switch	6,000	(*)	4,000
East Texas Refining Co., Longview	10,000	9,000	3,400
Gladetex Refining Co., Gladewater	500	300	350
Gladewater Refining Co., Gladewater	1,000	370	250
W. B. Mackey Co., Gladewater	500	(*)	450
Kilgore Refining Co., Kilgore	1,500	500	800
Overton Refining Co., Overton	3,500	600	1,000
Petroleum Refractionating Co., Longview	10,000	(*)	(*)
Sinclair Refining Co., Camps Switch	5,000	1,000	1,000
Southern Oil & Refining Co., Kilgore	2,500	500	400
Slack Petroleum Co., Willow Springs	2,500	(*)	(*)
Taylor Refining Co., Tyler	15,000	(*)	2,000
Total	79,800	14,070	15,550

*Shut down.

REFINERY OPERATIONS IN WEST TEXAS
(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Mar. 1	Runs Feb. 1
Bluebonnett Oil Refining Co., Wickett	5,000	1,200	(*)
Burford Oil Co., Pecos City	6,000	(*)	(*)
Coltex Refining Co., Colorado	10,000	5,800	6,400
Concho Refining Co., San Angelo	300	100	100
Cosden Oil Co., Big Spring	15,000	6,200	4,500
Deer Oil Corp., Luling	2,500	(*)	(*)
Ewmo Oil Corp., Luling	2,500	(*)	(*)
Grayburg Oil Co., San Antonio	6,000	650	650
Great West Refining Co., Big Spring	8,500	(*)	(*)
Gulf Refining Co., Sweetwater	5,000	3,000	3,000
Howard County Refining Co.	2,500	(*)	(*)
Humble Oil & Refining Co., San Antonio	5,000	715	1,250
Humble Oil & Refining Co., McCamey	15,000	(*)	1,000
Magnolia Petroleum Co., Luling	5,000	4,300	5,100
Marathon Oil Co., Del Rio	5,000	(*)	(*)
Misko Refineries, Inc., Laredo	1,500	850	800
Motor Fuel Products Co., Laredo	2,000	(*)	(*)
Pasotex Petroleum Co., El Paso	14,000	4,300	4,300
Pioneer Oil & Refining Co., Somerset	1,500	950	830
Richardson Refining Co., Big Spring	6,000	(*)	(*)
Rio Grande Oil Co., El Paso	6,000	700	700
San Angelo Refining Co., San Angelo	2,000	800	150
Signal Refining Co., Texon	500	200	(*)
The Texas Company, San Antonio	3,000	2,500	2,500
The Texas Company, El Paso	2,000	1,100	1,100
Tonkawa Petroleum Co., Pyote	5,000	(*)	(*)
Texas Mexican Oil & Refining Co., Laredo	600	400	400
Texas Petroleum Products Co., Somerset	1,500	320	500
Wickett Refining Co., Wickett	2,500	525	550
Total	139,900	34,610	33,930

*Shut down.

RUMANIAN GAS FIRE FINALLY CONQUERED

(Continued from Page 16)

caving sides the upward flow of the gas was at times impeded and some gas was diverted through the soft formation and escaped at points all around the well crater. These numerous gas outlets were ignited from the main fire at the well and in this way were at all times numerous smaller gas fires in addition to the one main fire at the well proper.

As might be expected, the pressure and volume of gas had very materially decreased during the more than 2-year perior the well had been running wild and it was estimated that on August 1 the volume was about 15,000,000 feet daily and the pressure equal to about 33 pounds. This was the general condition confronting Mr. Kinley when he took charge for his final attempt to bring this well under control.

New Work Started

The first thing done was to shoot the main gas flame with about 110 pounds of solid nitroglycerin which did not put out the fire and a second shot was exploded on August 10, which snuffed out the flame for four and one-half minutes but the gas again ignited from hot material in the hole.

To get the gas above the crater and away from the hot surface it was decided to install a sheet metal stack with funnel shaped base over the top of the well. This stack was about 30 feet high and the base about 5 feet high and large enough to fit closely into the bottom of the crater and over the open hole from which the gas was flowing. It was successfully placed and all ground fires snuffed out and another attempt to shoot out the flames above the stack was then made.

This shot of about 66 pounds of solid nitro was set off August 24 and was not successful and a second shot of the same size was exploded over the top of the stack on August 25 and it also missed. It did, however, loosen the guy wires holding the stack in place and the device fell over during the night and was then dragged out of the crater.

Having failed to put out the fire at the mouth of the well attention was next directed to the old first tunnel, previously described. As the 10-inch casing was still in place and connected with the 14-inch well casing by the clamp it was decided to remove the 4-inch drill stem and clean out this 10-inch pipe to permit part of the gas to escape in that way.

This work occupied the time between August 28 and September 4 and after the 10-inch pipe was cleared a suction fan was placed at the mouth of the tunnel and a portion of the gas drawn out. This reduced the size of the flame at the well mouth by about 50 per cent and permitted further work in the well crater.

From previous experience it was known that everything in the crater was very hot and streams of water were therefore turned into it to cool off ground and metal. It was known that the rotary drilling engine, turntable, crown and traveling block, and lots of old chain, cable and pipe were in the hole, in fact this is one instance where everything but the boiler was actually in the hole. The steam for drilling had been secured from a central boiler plant which explains why the boiler had not fallen into the crater along with everything else.

As the water softened the side walls of the crater the material below the bench, previously mentioned, began to cave into the bottom of the hole. As this mass of earth slid over the mouth of the gas well it effectively plugged the opening and practically all of the gas was diverted into the 10-inch pipe in the old tunnel.

Mudding and Cementing Tried

These slides cut off the gas at the well mouth but it broke through the soft ground in several places. It was therefore necessary to remove the mud and water from the bottom of the crater and a steam ejector was installed. From September 18 to 22 this work of removing material from the crater was carried on and the gas at the well mouth again caught fire and had to be shot out on September 28.

From September 28 to October 2 was spent in trying to lubricate the well with a mixture of mud through the top of the hole and through the 10-inch pipe in the tunnel. This was not successful and as the gas flow through the surface casing was cut off the gas escaped through the soft ground surrounding the well and numerous small fires started.

The next attempt to plug the well was made through the old No. 3 tunnel, the last to be completed and connected to the well casing. Through the pipe leading from the tunnel mouth to the well about 400 sacks of cement was pumped but it appeared that this pipe was broken somewhere in the tunnel and the cement never reached the well itself.

On October 8 an attempt was made to shut off the flow of gas by using an expansion bit run through the 10-inch pipe line in the old first tunnel. The idea was to run the bit into the 14-inch casing and then expand it and in this way divert the full flow of gas into the 10-inch pipe in the tunnel. It did not succeed because the bit only partially opened and half of the gas continued to flow through the mouth of the well and the balance through the 10-inch line.

October 13 further caving occurred in the crater and from that time until the seventeenth work was carried on removing this debris from the bottom of the crater and after this was completed the well again caught on fire, while junk material was being shot out of the walls of the crater.

On November 4 a shot was placed in the bank of the crater and it carried a large quantity of earth into the hole and snuffed out the fire. This was the last fire that occurred in the crater. From that time on the work was carried on without the gas again becoming ignited.

After this cave it was necessary to remove mud and water and this required the time between November 4 and 9. By this time the side walls of the crater had so caved in that the bench had disappeared and the wall from top to bottom presented practically an even surface at an angle of about 45 degrees.

In the early work the men had been entering and leaving the crater by means of ladders. This made their work slow and it was decided to lay track and install a small tramway to facilitate operations and this required until November 26 to complete.

Mr. Kinley was called away from this work for two days at this time to assist in putting out another well fire that had occurred in another part of the field. The well was brought under control before he actually took charge and this permitted him to again return to the fire at well No. 160.

Final Stages of Work

The winter season was settling down over Rumania by this time and snow and rain occurred frequently. This moisture caused much caving in the crater and as the ground gave way much heavy material fell into the hole and had to be removed. This removal of old iron parts had been going on practically all the time that the fight to bring the well under control had been in progress and tons of old metal parts were dragged to the surface a piece at a time.

To make the work more hazardous, old concrete foundations on the surface were becoming exposed as the walls of the crater caved back and it was only possible for three men to work in the hole at any one time. In fact, Mr. Kinley only had two assistants on the job the whole time, one of them, Grady Chupp, former drilling superintendent for the Romana-Americana Co., and the other a Rumanian field worker named Costica Lupu. These restrictions were imposed by government officials.

Another method of using a stack and funnel was next tried and about November 28 a special stack made of boiler plate was placed over the mouth of the well. Material falling into the hole had carried to the top of the casing some heavy metal which had lodged in such a position as to split the gas flow and when the stack was placed the gas was actually flowing in two streams separated by about 6 feet of space. The funnel portion of the stack was large enough to cover both gas streams and the stack was about 17 feet high and 12½-inch diameter.

After the stack was firmly set the hole forming the bottom of the crater was next filled with a concrete mixture to a depth of about 10 feet. This buried the stack base and this concrete block made contact with the bottom walls of the well crater.

Above the concrete block about 15 feet of loose earth was next placed so that the old crater was filled with concrete and earth to a depth of about 25 feet, with a portion of the 12½-inch stack sticking up into the air.

This new surface of the crater bottom permitted work to be carried on easily at the stack mouth and the first attempt made after this installation was completed was to try to shut in the well by means of a gate valve at the top of the stack. As soon as the gas was shut off from free flow through the stack it bypassed between the base of the concrete block and the walls of the hole and soon appeared in numerous small jets in the earth fill above the concrete base.

This proved that it could not be hoped to shut in the well at this stage from the stack and the next attempt was made by trying to pump cement into the remaining length of 14-inch casing between the mouth of the well and the 14-inch connection in the first tunnel, a point about 70 feet below the surface of the earth.

Between December 23 and January 26 numerous attempts were made to pump in cement and a mud mixture through the stack and fill the 14-inch casing. To keep the space within the funnel base open a joint of 3-inch pipe was run inside the stack so that the gas could have outlet to the air. Four batches of cement were run into the casing and allowed to set but as they were gas cut the cement did not set and blew out.

Attempts were made to establish mud circulation through the stack, 14-inch casing and the 10-inch pipe in the tunnel and this finally succeeded and mud pumped into the top of the stack made its appearance at the end of the 10-inch where it left the first tunnel. As soon as this circuit was established cement was again pumped into the stack and the 14-inch casing filled.

Several days were allowed to pass before check was made of this cementing job and when the 3-inch outlet pipe was opened it was found that no gas was escaping from the well mouth and it was assumed that not only was the 14-inch casing filled with cement to a point just above the 10-inch connection but the base of the funnel had also filled solid and all gas was shut off at the well mouth.

The gas was now all passing out through the 10-inch pipe in the old tunnel and the next work was to connect a Y to the end of this pipe and split the flow into two streams. One 10-inch surface pipe ended in a joint of pipe erected in a vertical position which permitted the gas to discharge into the air at some distance from the well. It was allowed to do this while four oil and gas separators were erected for the second 8-inch line and from these separators lines were laid to the natural gasoline plant.

When all of this work was completed the valve to the vertical stack was gradually shut and gas passed through the separators to the gasoline plant. The full flow of the well will gradually be thus diverted to the plant and all waste

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 69)

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices effective June 20 are as follows:

Ventura Avenue, 32 gravity, 58 cents, with 2 cents added for each degree upward to and including 36 gravity, which is 74 cents.

Kettleman Hills—The Associated Oil Co., effective at 7 a.m. February 5, 1932, withdrew and canceled any and all prices heretofore published and in effect for Kettleman Hills oil.

Potrero, 24 gravity, 69 cents, with 2 cents added for each degree upward to 34 gravity which is 69 cents.

General Petroleum Co. in Kettleman Hills, effective January 1, 1932: 33-33.9 degrees, 66 cents; 34-34.9 degrees, 68 cents; 35-35.9 degrees, 70 cents; 36-36.9 degrees, 72 cents; 37-37.9 degrees, 74 cents; 38-38.9 degrees, 76 cents; 39-39.9 degrees, 78 cents.

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above these quoted take highest price for that field)

Gravity °A.P.I.	Signal Hill	Alamitos Heights Seal Beach	Huntington Beach	Athens, Rosecrans, Dominguez	Torrance	Santa Fe Springs	Playa Del Rey* E. Coyote	Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9														$.50	11-13.9
14-14.9	$.65	$.65	$.65		$.65			$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.65	.65	.65		.65			.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65		.65			.65	.65	.65	.55	.55	.55	.56	16-16.9
17-17.9	.65	.65	.65		.65			.65	.65	.65	.55	.55	.55	.56	17-17.9
18-18.9	.65	.65	.65		.65			.65	.65	.65	.55	.55	.55	.56	18-18.9
19-19.9	.65	.65	.65		.65		$.65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.65	.65	.65		.65		.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.65	.65	.65		.65		.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.65	.65	.65		.66		.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.67	.67	.67		.67		.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.73	.73	.73	.73		.65		.72		.70	.67		.66	.66	26-26.9
27-27.9	.75	.75	.75	.75		.68		.74		.72			.67	.68	27-27.9
28-28.9	.77			.77		.71				.74			.69	.71	28-28.9
29-29.9	.79			.79		.73				.76			.71	.74	29-29.9
30-30.9	.81			.81		.75				.78			.72	.76	30-30.9
31-31.9				.83		.78									31-31.9
32-32.9				.85		.80									32-32.9
33-33.9				.87		.83									33-33.9
34-34.9				.89		.85									34-34.9

*Subject to a gathering charge of 5 cents per barrel.

stopped and the well put under complete control and production.

It was on February 7 that the gas was first diverted to the gasoline plant and the fight to bring this old wild gasser ended after having been out of control since May 22, 1929. This is a period of 2 years, 8 months and 15 days. The well actually burned for a period of 2 years 5 months and 12 days, perhaps the longest period of open flow of a gas well out of control known to the industry.

MANY DIFFICULTIES AT HOH HEAD WELL

(Continued from Page 17)

over mineral soil, massive windfalls make travel practically impossible except over trails, and rain falls nearly every day

E. A. Sims, veteran Washington political leader and president of the Northwest Oil and Gas Association, after whom the well was named.

from October to April. Happily much information was imparted by the sea beach cliff. This helped greatly in working out the fold.

The well stands near the supposed top of the anticline, in the center of a group of seeps from which paraffin base oil has been welling up ever since discovery.

Nels Graham, left, superintendent of the Leslie operation. At his side is E. J. Lesser, president of Leslie Petroleum Co., which is drilling the test jointly with the Olympic Refining Co. of California.

All oil so far brought up out of No. 1 Sims has been of paraffin base, running between 45° and 50° gravity.

Encouraging signs have attended drilling. On February 29 the tools picked up a fifth saturated sand beneath 75 feet of hard black shale. The first pay zone is a 22-foot sand topped at 805 feet, with a succession of production strata encountered at brief intervals below. The hole is now bottomed at about 1,300 feet with 10-inch pipe right behind the tools. Bailing tests indicated 20-bbl. yield from the first sand. At 900 feet caves forced switch-over to circulating mud, which precluded bailing tests of deeper production zones until the company decides to stop for a quantitative survey. Late reports indicate the fifth strike was by far the best in both oil and gas showings.

EASTERN REFINERY PRICES ARE UNCHANGED

(Continued from Page 65)

til large shipments of products, principally wax and lubricating oils, had been rushed abroad in an effort to land them before March 1. Earlier reports from England had given no indication that refined products would be exempt; on the contrary, the statement was definitely made that these products would come in for a 10 per cent ad valorem duty. Exports, consequently, after a hectic fortnight of coralling rush shipments, now find that there has been "much ado about nothing."

There was limited inquiry from South America for lub oil and cased gasoline during the past week. Other products, however, showed continued quiet so far as export volume was concerned.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended February 27 totaled 1,886,000 bbls., a daily average of 269,429 bbls., compared with 2,009,000 bbls., a daily average of 286,999 bbls. for the previous week, and a daily average of 237,750 bbls. for the four weeks ended February 27. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	247,000
Boston	59,000
New York	1,150,000
Philadelphia	162,000
Others	268,000
Total	1,886,000
Daily average	269,429
At Gulf Coast Ports—	
All ports	None
At Atlantic and Gulf Coast Ports—	
Total	1,886,000
Daily average	269,429
Daily average four weeks	237,750

Distribution of total imports is as follows:

Crude	828,000
Gasoline	480,000
Gas oil	76,000
Fuel oil	502,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended February 27 totaled 81,000 bbls., a daily average of 11,571 bbls., compared with 233,000 bbls., a daily average of 33,286 bbls. for the previous week, and a daily average of 21,107 bbls. for the four weeks ended February 27. The week's receipts consisted of 28,000 bbls. of gasoline at Baltimore and 33,000 bbls. of gasoline at New York, none being received at Gulf Coast ports.

There was only one cargo of California refined products reported cleared for Atlantic or Gulf Coast ports during the week, 112,800 bbls. of gasoline on the tank car Brilliant for New York from Los Angeles.

OCTANE RACE NOW GAINING MOMENTUM

(Continued from Page 15)

Third grade				
O.N.			52	53
I.P.			111	105
10%			149	155
20%			180	185
50%			269	265
90%			388	375
E.P.			419	413
Rec.			98.0	98.0
RVP.			6.6	5.9
	COMPANY N			
Regular grade	July, 1930	Jan., 1931	July, 1931	Jan., 1932
O.N.			65	62
I.P.			105	97
10%			152	137
20%			179	169
50%			265	258
90%			370	373
E.P.			397	397
Rec.			97.0	96.0
RVP.			7.6	9.9
Premium grade				
O.N.			72	73
I.P.			115	95
10%			148	138
20%			184	169
50%			240	253
90%			341	364
E.P.			386	399
Rec.			98.0	97.0
RVP.			9.2	9.0

PROVIDE ELECTRICITY FOR MIDWEST PLANTS

(Continued from Page 66)

unit with a charging capacity of 6,500 bbls. per day also has been approved and this work is to get under way at once. It will replace obsolete equipment. While the company has made no announcement to that effect, it is understood that this unit, which was developed at the Whiting, Ind., laboratories, was designed especially with a view to handling black oil. Several months ago a similar unit with a capacity of 2,500 bbls. daily was placed in operation at the Greybull refinery. The operating results have not been disclosed, but the Illinois Pipe Line Co. is constructing a short 8-inch line to move black oil from the Byron-Garland Field, erecting a large tank and putting in a pumping plant. A few months ago the Midwest placed an order for 100,000 bbls. of Garland crude with the Ohio Oil Co. and the fact that permanent improvements for moving oil from the field are being installed, indicates that the running of black crude to the stills at Greybull yielded satisfactory results. The producing companies in Salt Creek have black oil production in the Tensleep sand, but only one well to that horizon has been completed and it was shut in until the oil was needed. Whenever conditions warrant it, the development of the black oil horizon in Salt Creek is expected to begin. The city of Denver recently placed an order with the Midwest for 1,000,000 gallons of road oil.

A. W. Peake, vice president of the Standard Oil Co. of Indiana, is in Denver in connection with the electrification program. He was chief engineer in charge of the construction of the Salt Creek power plant.

Before the cable bridge shown above was finished supplies and some equipment for the well were carried across the Hoh River in canoes.

NEW TARIFF LAWS IN BRITAIN EXEMPT CRUDE

(Continued from Page 66)

per gallon shall be payable on all hydrocarbon oils imported into the United Kingdom on or after April 25, 1928, and on all hydrocarbon oils so imported before that date and landed therein on or after that date.

"'An excise duty at the rate of 4d. per gallon shall be payable on all petroleum oils which on April 25, 1928, were in the United Kingdom, and in the ownership or possession of any person who on that date held more than 10,000 gallons thereof.

"'There shall be allowed from the duties a rebate at the rate of 4d. per gallon on the delivery for home consumption of any goods other than light oils."

"The Finance Act of 1928 then proceeds to deal with the meaning of 'light oils,' which, it is explained, covers hydrocarbon oils of which not less than 50 per cent by volume distills at a temperature not exceeding 185° C., or of which not less than 95 per cent by volume distills at a temperature not exceeding 240° C., or which give off an inflammable vapor at a temperature of less than 22.8° C. when tested in the manner prescribed by the acts relating to petroleum.

"Our readers may recollect that last April the customs duty upon motor spirit was increased to 6d. per gallon, and five months later to 8d. per gallon, which is the tax levied today upon all imported motor spirits.

Development a Surprise

The exemption of refined petroleum products from the provisions of the 10 per cent ad valorem duty came as a surprise to many American export operators, who had been proceeding on the conviction that refined oils would be dutiable, as of March 1, at 10 per cent ad valorem, in addition to the customs duties previously imposed. Considerable quantities of paraffin wax and lubricating oils, in particular, had been rushed from this country to the United Kingdom to get in under the supposed March 1 "deadline."

Reports from Trinidad and from London indicate that petroleum interests had been proceeding on the theory that additional tariff protection was to be afforded on petroleum products. Trinidad refiners, it was reported, were planning on diverting gasoline exports from the United States to the United Kingdom, where a duty preference was looked for, and it was estimated that this diversion would amount to as much as 45,000,000 gallons per annum.

British refining interests, which have been operating at less than 33⅓ per cent of capacity during the past year, were planning a gradual increase in operations, to take advantage of the supposed 10 per cent differential, and there was considerable talk of new refinery construction in Great Britain.

The disclosure that the new law specifically exempts refined petroleum, however, is expected to change all of these reported plans, leaving the situation unchanged from the previously existing status.

BURROWS SLOAN DIES SUDDENLY

Burrows Sloan, age 54, chairman of the board of the General Refractories Co., Philadelphia, Pa., and a business associate of the late Governor W. C. Sproul of Pennsylvania, died suddenly Sunday, February 28. He was widely known in the iron and steel industry.

AS TO RESTRICTIONS UPON PRODUCTION

(Continued from Page 18)

of profits will eventually bring a halt in many unsound practices, but comforting ourselves with the thought that in the meantime, though making free with stockholders' money, we are doing a public service by giving many people employment.

From an economic standpoint there are too many service stations, just as there are too many grocery stores, too many drug stores, too many steel mills, too many farms. The best situated marketers are those who buy at distress prices, usually on guaranteed margins. They are part of the industry, I suppose, and I therefore salute them. So far as the integrated companies are concerned, it is my considered opinion that they must look to other branches of the business for profits. Their merchandising may be considered for the present as merely a means of turning something into money. If this occurs on the basis of dollar for dollar there may still be room for profits in oil. There may be something in another department. Let us see.

Overbuilt Refining

The refining business is a middle stage. In it we have too much capacity. Here again we are overbuilt. But this is not serious, except when there is a surplus of crude material and the resulting temptation to manufacture excessively and flood the markets. If there were an undersupply of crude, or even a balanced supply, refinery runs would necessarily decrease. They could not continue excessive without an excessive supply of crude, and 40 per cent of idle capacity would not be ruinous if the remaining 60 per cent were operated profitably. To be sure, it would reflect upon the intelligence of the industry, but in the course of time capacities would be adjusted to requirements. And, if I may repeat, operations need not be unprofitable pending the adjustment.

Real Cause of Headache

The real cause of our headache is crude oil inventories, visible and invisible. In the United States we have in the ground, say, 1,000,000,000 bbls. of oil that could quickly be drawn to the surface and turned into the channels of trade. We also have over 400,000,000 bbls. of refinable crude aboveground, as against reasonable working stocks of 200,000,000 bbls. And we are in constant panic regarding these stocks. They cast a shadow all the way down the line. Manufacturing is unprofitable, marketing is unprofitable, business is unprofitable, partly because of the psychological effect and partly because of the natural economic effect of these vast sources of supply.

Now suppose this industry were a single unit, one ownership, trying to determine the best way to liquidate these visible and invisible stocks, trying to determine what is good business: Would the decision be to throw everything on the market instanter? Certainly not. The industry by one volition would do the obvious and sensible thing. The stocks are going to be taken; they are being drawn upon now. Other stocks may or may not become available. In any event future stocks will cost more than we could now realize by dumping what we have.

Not Too Panicky

I think we should not become too panicky about this oil in the ground. A pool of 100,000,000 bbls. is a good one. It takes nine new discoveries of that kind each year to keep us going—I am speaking now of the United States alone—and the large flush pools now on the rampage will cease to be a menace, even under curtailment and proration, in less time than is generally supposed. Yes, we have large reserves. That is true. They may not be as large as they seem, but they are large. Must we rush them out, or may we work them off in an orderly manner? It is a plain question of business. We have the choice between restraints and moderate profits on the one hand and chaos, if not ruin, on the other. And always it should be remembered that economic forces now in play will reduce the number of new discoveries over the near future.

The importance of our $12,000,000,000 industry, with 2,000,000 investors, 2,500,000 workers, and which, including the income taxes of its investors in normal times, pays nearly $1,000,000,000 annually in taxes, is hard to overestimate. Naturally one shudders at the thought of this structure being wrecked. And I am not thinking so much of millionaires, if any, as I am of the workers and people of moderate means who have invested their savings in good faith. The latter have invested largely in the smaller companies. They would be the sufferers in a wreck. If they were not involved one might be tempted to say, let nature take its course, let oil go as freely as water until all drilling is stopped and known pools are exhausted, after which the business will be on a sound basis. But that would be both heartless and wasteful. Moreover, we would then see the other extreme, scarcity and high prices, in a new cycle resembling the old. Instead of being a liability our proven reserves are a wonderful asset if properly husbanded. They should give stability rather than instability to the industry. The old fear of oil petering out is no longer present. Stocks in the ground are better than stocks in steel.

Shameless Speed

Every informed person knows that during the last few years both refinery runs and crude production have been held back. Some wells and pools have produced to their potential limits and some refiners have been shameless in their speed. At the same time good sportsmanship and far-sightedness have been in evidence. I know of no unlawful agreements that have played a part. On the contrary, it has been a matter of individual sanity and lawful co-operation. The governments, both national and state, have been sympathetic and helpful on the whole. We are really free to make agreements in certain contingencies. We can go much farther than we have gone. I share the opinion expressed by Walker D. Hines at the general meeting of the Steel Institute last October where he said:

"There is another branch of industrial practice that I believe is even more fundamental and about which I think there is much adverse application of the present law, and that is with respect to the balancing of production and demand. Of course that is one great difficulty in many industries, that with all they do, and they do a great deal, to expand the demand, they nevertheless get in a situation where they are producing more than the demand will take and where as a result they are perpetuating a condition of instability with all the adverse effects that I suggested at the outset. Now what is the law on that subject? Can competitors in an industry and with an excess capacity and with a strong tendency to produce more than the demand will absorb make agreements for the purpose and with the effect of keeping production in balance with demand, or are they prohibited by the antitrust act? My opinion is that the antitrust laws do not prohibit arrangements of that character. There is a very fundamental distinction between an agreement whose purpose or effect is to create a shortage with the result of artificially increasing price, and an agreement, on the other hand, not to create a shortage but to avoid a surplus. And it is this latter sort of agreement that I undertake to say is not prohibited by the antitrust laws, if we take them at what they say on their face and if we take them at what the Supreme Court has declared about them."

Rule of Reason

And this is not a new principle. It is rather an application of the rule of reason made famous by the Supreme Court of the United States in the Standard Oil dissolution suit. It is also in line with the recent decision in the Socony-Vacuum merger case, in which Mr. Hines was of counsel. Indeed, I think we are on high ground when trying to save a well-nigh ruined industry by balancing production with consumption. Agreements or combinations could not be carried beyond reason, but what we are thinking about these days is far, very far, from the danger zone.

Convinced that the federal law is not prohibitive, you may ask, what about state statutes? I think the answer is the same. Some states have statutes which, if taken literally, would preclude almost any kind of constructive action; and state courts, in a few instances, have given the strict construction. But those decisions are inconclusive. To me it seems clear that any statute, whether national or state, so far as it can be construed to mean that individuals or corporations in times like these may not enter into temporary arrangements to place an industry in balance by reducing production or manufacture to a point corresponding with demand, must be condemned as violative of the federal constitution. This is a fair corollary of the decision in the Standard Oil case. The court there said, in effect, that although the Sherman Act in terms prohibits every combination which restrains interstate commerce, it cannot be given a literal meaning and thus prohibit such combinations as are not vicious or unreasonable in their nature, because in that event it would unreasonably restrict the right to contract, and would unreasonably operate upon the rights to acquire and hold property.

Prevention of Waste

The law was sustained and applied in that proceeding because of the rule of reason. Or, to put it another way, except for the rule of reason the Sherman Act does invade the right to contract and the right to acquire and hold property, but, with the rule of reason read in, it has no such effect and therefore is valid and enforceable. Only the fact that the strict and literal construction was unnecessary saved the act from condemnation. And precisely the same constitutional limitations apply to state legislation. A state court is not at liberty to say that the rule of reason does not apply. It is a federal question, when properly presented, and neither state statutes nor state constitutions can control. And I will add, incidentally, that what would apply to agreements for the curtailment of crude production and refinery runs, to bring production in balance with consumption, should, in my opinion, apply with equal force to reasonable and salutary agreements in a code of marketing practices. The point is that liberty of contract, the right to contract, carries with it full freedom in this respect, except where injury to the public is involved or some private right is invaded, and t[illegible] no such result flows from a combinat[illegible] or agreement which is fair and reaso[illegible]able in its nature and which does n[illegible] produce or tend to produce excessive pro[illegible] its at the expense of consumers. It ca[illegible] not be an unreasonable restraint of trad[illegible] to prevent palpable economic waste.

Perhaps the argument is academic, for it is hard to see the oil industry making agreements or adopting plans, however wholesome and reasonable, if they have the least flavor of trade restraint. At the same time we can afford to do som[illegible] straight thinking. We need not feel that we must bleed to death. I agree with Oscar Sutro that the antitrust laws should be amended so as to remove any doubt. But in the meantime we should not be devoid of courage.

Minority Can Stampede

It is gratifying that producers and refiners have had the foresight and sportsmanship to reduce their operations until our industry is now approaching a balanced condition. Stocks are still large, and this is particularly true of gasoline stocks here in California, but current operations are creditable. The industry is coming to its senses. Lack of profits is a powerful influence. It should be. But what will happen when—perhaps I should say if and when—business becomes a little better? Will voluntary curtailments continue? I am not extremely hopeful. The ordeals through which we are passing have tended to make us good.

My fear is that if and when these ordeals are ended one after another of the present good sportsmen may cease to be good. The activity of one will cause another to start. And so on. Even a small minority can stampede the industry. It is improbable that we can ever reach a satisfactory basis and have really good profits again if we must rely solely upon the disposition of men to accept a principle and restrain themselves on the assumption that others will do likewise. I do believe, however, that the great majority will support, and that this support will make effective in enforcement, laws for the curtailment of crude production so that supply will not outrun demand and thus create economic waste. With crude production thus curtailed in times of potential oversupply wilful minorities will be powerless.

Economic Waste

The feasibility of curtailing production by orders of a commission acting under statute, where the statute provides that economic as well as physical waste must be considered, is the question that I purpose to discuss. Is it enough to provide merely against physical waste? Is it enough when the factor of reservoir energy is included and its dissipation is a part of the definition of physical waste? I think the answer is no, and that the law should go farther. The old school professes to believe that any artificial restraint will invariably prove worthless and that in such case the last state of the industry is worse than the first. The other and more progressive idea is that modern conditions call for new conceptions; that while the law of supply and demand will ultimately control price and prosperity there can be an economically sound avoidance of extremes in the meantime.

This age of the machine and mass production has brought its problems. They are severe and unremitting. They press hard upon the world. In our own land of plenty we are perplexed and suffering. Poverty has succeeded riches and distress stalks undisguised. Surplus food has caused men to beg for bread. The government itself feels the strain and demands more taxes of the citizen when he is less able to pay. It is a time when courage is needed. New conceptions are imperative. The old saying—

"Be not the first by whom the new is tried,

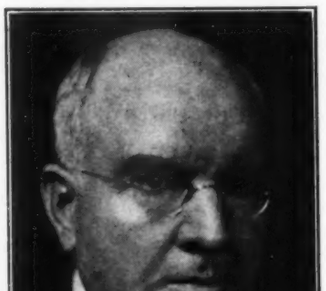
"Nor yet the last to lay the old aside"

no longer holds good. We must have vision as well as courage. Forced into new paths we must forget the old meanders. We must find the way out.

Oil Case Different

Already there is widespread discussion of economic waste and of legislation on the subject as applied to agricultur[illegible]

MR. BEATY REMARRIED



Amos L. Beaty

NEW YORK, Mar. 5.—Amos L. Beaty, president of the American Petroleum Institute, and Mrs. Martha W. MacNamara were married at noon today and left immediately on a wedding trip to California.

Mr. Beaty, a native of Red River County, Texas, is 61 years old and has been a widower since 1930.

various industries are viewing their situations with serious eyes. It would not be surprising if some of them sought relief in this direction. Any natural resource industry could present a strong argument. But our case is different from all others. It is different not only on the theory that oil reserves are exhaustible; there is a difference based on the nature of the producing operation. An oversupply of cotton, wheat, pork or hides cannot be ascertained until after it has occurred and the damage is done. In the production of cotton, wheat and other farm products acreage is not a conclusive factor in forecasts, and there are both practical and legal difficulties in the imposition of restraints. If it were not so, many restraints by law would be in existence now. But in oil production these difficulties do not exist. Here it is entirely feasible by simple control at the wells to limit the output currently to consumption or market demand. It needs only legislation against economic waste, or, in other words, law which prohibits production in excess of consumption of market demand. And, moreover, the prevention of economic waste goes hand in hand with the prevention of physical waste. Nine times out of 10 there is a dissipation of reservoir energy when economic waste of oil is being committed; prevention of the one is prevention of the other. And it is here that we differ from other natural resource industries. It does not follow, however, that conservation of reservoir energy alone is sufficient, for instances do undoubtedly occur where there is economic waste in the absence of the other kind.

Machinery for Enforcement

Certainly there must be machinery for enforcement. This means commissions and umpires. But what of it? We have long since ended the old order of production ad libitum. We know enough to know that when there is large potential oversupply a good law under which allowables are officially established and enforced is better than mere co-operation where a few obstructionists can spoil everything. We know enough to know that such laws do not menace the industry. We know enough to know that they are constructive. Yes, this is government regulation. But again I say, what of it? We need regulation. Time and time again we have seen the inadequacy of self-control. Moreover, if there ever comes another day of large profits we shall probably be regulated whether we like it or not. Transportation by automobiles, buses and trucks has reached such importance in our national life, and the dominance of petroleum products in this transportation is so conclusive, that, to say nothing of supplies for national defense, the public as such has an interest. Few of us like the idea of government regulation. We like freedom. We hark back to the period when commercial pirates prospered and the golden rule was considered stupid. The railroads had to be controlled. Fancy a continuation until now of the old system of watered securities, free passes and rebates! Municipal and state control is now extended over many industries where there exists the element of public dependence. The idea has a definite and permanent lodgment in our institutions. I hope you will understand, however, that I am not advocating government regulation, except in the matter of crude oil production when there is oversupply. My belief is that if regulation there will be sufficient, because it will favorably affect all branches of the oil business. And this should be true from the standpoint of the public as well as the industry.

Regulation Required

One dread of government regulation springs from the various failures of government in business. The argument is that if the government cannot successfully run a business it is not qualified to regulate one. Much might be said in refinement as regards both premise and conclusion. The postal system might be cited in contrast with steamship operation. But no such labor is necessary; government has no place in business; it is not instituted for that purpose. On the other hand, regulation is a true function of government. Regulation of business, where regulation is required in the public interest, is the same principle as the regulation of personal conduct. It may inure to the benefit of the business itself just as restraints upon personal conduct may benefit the individual. The old fear that the government agency would be prejudiced in favor of consumers has proved groundless. Regulatory bodies have been found to understand and reflect any healthy and honest sentiment of the industries entrusted to their supervision. As a rule they are fair. Our own experience with them has been encouraging.

I grant you that the law of supply and demand would eventually control the production of crude oil. When too much is produced and offered on the market, prices decline. Lower and lower prices finally affect drilling and this in turn ultimately reduces production. For some time now the price of crude has ranged below the average cost of production and we have seen the number of drilling wells consistently decrease. Millions of acres of land held under lease have been surrendered and thousands of stripper wells have been abandoned. This trend would ultimately reduce both actual and potential production to consumer demand. But it would involve great waste and a strain not easy to endure. The folly of taking oil from the earth too rapidly at the loss of propulsion energy is no greater than the folly of vacating the tankage that nature made and substituting expensive steel. And these follies combined do not compare with the stupidity of states that allow their natural resources to be depleted without adequate return. It is absurd to say that nature must take its course. Government is instituted to save men from themselves. The purpose is the greatest good for the greatest number. If men in their greed will not heed boundaries, it is the duty of the state to stop them. And particularly is this true when there is involved the consumption of a great natural resource and the welfare of posterity is at stake. Most of us are convinced that there is a limit to the quantity of petroleum that can be produced in the United States. But whether there is a limit or not, we are on the safe side in practicing and enforcing conservation. Unitization is wholesome. It means much in the way of economic and orderly production. But in my opinion its field is no greater than that of direct legal restraints upon economic waste in production.

Opponents have pointed to the difficulty of maintaining an equitable balance between states and also between pools. But these difficulties are slight in comparison with the importance of the principle involved. True, the administration in one state, whether acting upon its own views or reflecting the opinion of the industry in that state, may claim too much of the market. But, after all, it only requires a reasonable amount of fairness to bring satisfactory results. We are witnessing at this time the workings of the system with only meager laws in force. Texas has not the kind of law that is required, but due to threatened insurrection resulting from demoralization in oil production the governor of the state proclaimed and maintained martial law. Under martial law oil production in East Texas has been held down to a basis which precluded the waste of reservoir energy, and incidentally to market demand. There may be inequalities as between the states. California may be producing too much or Oklahoma too little. There may be inequalities as between pools. East Texas may be producing too much and Oklahoma City too little. But in the last analysis the result is not bad. The market is not flooded with distress oil, the price is not down to 10 cents a barrel, and the states and pools which have been pinched too much will have their oil when we return to normal conditions and prices are sufficient to cover the cost of production. And you must remember that there is, as yet, no state compact and really no law, except in one state, that deals directly with the economic phase.

Oklahoma is the only state that has avowedly undertaken to prevent economic waste. The statute there provides:

"The taking of crude oil or petroleum from any oil-bearing sand or sands in the State of Oklahoma at a time when there is not a market demand therefor at the well at a price equivalent to the actual value of such crude oil or petroleum is hereby prohibited, and the actual value of such crude oil or petroleum at any time shall be the average value as near as may be ascertained in the United States at retail of the by-products of such crude oil or petroleum when refined less the cost and a reasonable profit in the business of transporting, refining, and marketing the same."

Would Have Been Worse

And this bold venture into the uncharted realm has proved a godsend. But for it we should doubtless be experiencing even worse conditions than we have. Oklahoma City and Seminole could produce enough oil to bring the price down to 10 cents a barrel and keep it there for months, if not years, to come. Inhibitions against physical waste and the dissipation of reservoir energy would have been entirely inadequate for Oklahoma City.

Perhaps the Oklahoma formula for fixing value is not ideal. It might be better to provide for curtailment merely to market demand at fair prices, all facts considered. This would give needed elasticity. But the statute has not been a failure. It is now before the Supreme Court at Washington on the question of its constitutionality. That court, however, is committed to the doctrine that inferior uses of a naural resource may be prohibited. Inferior use is but one species of economic waste. Surplus production and low prices breed inferior use.

Kansas and Texas laws, while prohibiting waste and including the waste of reservoir energy in the definition, do not undertake to prohibit economic waste. Fortunately for the industry, it has been possible for the Public Service Commission of Kansas and the Railroad Commission of Texas (plus martial law) to hold production down to partially satisfactory limits, since more rapid production would have meant the loss of gas energy. In each instance, however, much has depended upon co-operation in the industry. In each instance, too, the well crystallized sentiment in the industry has found a friendly response in state authority.

Sharkey Bill

In California the industry itself has carried the laboring oar, and has done a good job. And now the Sharkey bill. It takes into consideration crude oil and refined products in storage, current requirements for use in and shipments out of the state, and stocks that are necessary in the future and continuous course of the business. Inter alia, it denounces excessive production as waste and prescribes the remedy. It distinctly provides that

"The loss by evaporation or leakage and the increased hazard of loss from fire and other causes resulting from the storage of crude petroleum oil and/or its refined products in excess of the quantities which are reasonably necessary to insure continuity of an adequate supply for such current requirements is waste within the meaning of this act."

This measure represents the considered judgment of those who have studied your problems for years. Both in substantive matter and procedure it is well thought out. It does not touch the question of economic waste. Instead, it proceeds upon the theory of physical waste. So far as excessive production is concerned, it compasses the item of evaporation and other losses incident to storage. There is no attempt to limit output if required for use or shipment, no matter how unprofitable the business, or economically wasteful. The bill is merely an inhibition against physical waste, including the excessive or untimely transfer of oil from the ground to above ground storage. It is very conservative and will be useful, though I should like to see it go much farther.

And now, if I may return to Texas for a moment. The legislature there last year expressly forbade the consideration of economic waste. The Railroad Commission was solemnly told in a formal enactment that it must give no heed to economic waste. And we have seen the fruits. East Texas oil went as low as 10 cents a barrel. Chaos became well-nigh complete. Insurrection was imminent. Martial law ensued. The field was completely shut down for a while. Then followed injunctions, hearings, controversies, uneconomic operations. All concerned emerge wiser but poorer. I am a Texan by birth and subscribe to the saying "Once a Texan always a Texan." On the red hills of East Texas I toiled in my boyhood. There I learned the story of the Alamo, of Goliad, of San Jacinto. My relatives live there today. I know the impulses and the patriotism of that people. They have made mistakes, as all peoples have, but the mistakes were not

DECLINE IN COMPLETED WELLS IN FEBRUARY'S FIELD REPORT

Completions in the fields east of California declined 143 in number in February as compared with the January report, but there was an increase in initial production of 4,614 bbls. It was a bad month for the wildcatters as 222 dry holes were reported as against 177 the month before and the gas wells numbered 25 fewer than in January. Fifty-eight per cent of the new oil wells were in the East Central and East Texas area. The initial production of these wells is given as 29,037 bbls. but this represents only the volume of oil the wells produced on short time gauges, most of them of one hour's duration.

Following is the summary of operations for the month:

SUMMARY OF ALL FIELDS
Wells Completed

	Comp.	Prod.	Dry	Gas
Eastern	133	576	21	37
Central Ohio	35	160	14	17
Lima	8	7	2	3
Indiana	11	155	6	3
Michigan	7	20	5	1
Kentucky	19	540	5	4
Illinois	2	10	1	0
Kansas	37	17,004	15	0
Oklahoma	63	76,854	17	16
North Central Texas	67	2,036	39	2
E. Cent. and E. Texas	343	29,037	14	3
East Texas gas area	3	0	2	1
West Texas	8	852	2	0
Panhandle Texas	6	1,525	2	1
Gulf Coast	62	23,203	38	0
Southwest Texas	48	6,558	20	6
North Louisiana	15	1,110	9	1
Arkansas	1	0	1	0
Mississippi	5	0	2	3
Montana	2	60	1	0
Wyoming	4	5	3	0
Colorado	3	30	2	0
New Mexico	3	14,761	1	1
Total January	885	174,303	222	99
Total December	928	169,689	177	124
Difference	143	4,614	45	25

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	41	135	176
Central Ohio	23	72	95
Lima	4	16	20
Indiana	2	59	61
Michigan	55	80	135
Kentucky	7	63	70
Missouri	0	1	1
Tennessee	0	14	14
Illinois	1	18	19
Kansas	34	113	147
Oklahoma	57	243	300
North Central Texas	48	125	173
East Central and E. Texas	249	321	570
East Texas gas field	4	29	33
West Texas	17	85	102
Panhandle Texas	14	39	53
Gulf Coast	17	88	105
Southwest Texas	25	107	132
North Louisiana	17	50	67
Arkansas	9	27	36
Mississippi	10	12	22
Alabama	2	3	5
Montana	14	47	61
Wyoming	12	62	74
Colorado	10	70	80
New Mexico	8	46	54
Utah	1	19	20
Total January	681	1,944	2,625
Total December	691	1,909	2,600
Difference	10	35	25

of the heart. When they understand this issue, as understand it they shall, there will be no need for martial law. They will place upon the statute books a law even better than you will have in California. Pending that event there will doubtless be control through commission orders and martial law. Sentiment has already formed to the point where that is inevitable.

No Fear of East Texas

There need be no fear that East Texas will break. You may say this is an admission that further legislation is unnecessary. It is not so intended, however. Further, legislation is necessary to avoid repetition of what we have seen in the recent past. The uncertainty of control in East Texas has depressed the oil business. Still further depression has resulted from the fact that this field could be limited only to the extent of conserving reservoir energy, and not to fair market demand.

In conclusion, may I not summarize by saying this: The oil states, through statutes and administration, forced on by events, and by an overwhelming sentiment of the industry, are slowly moving to prevent the economic waste of oil and gas. Unit operation, the establishment of a better system for the exercise of property rights, statutory inhibitions against the waste of reservoir energy, and finally law of the kind that I have advocated, for use in times like the present, will eventually bring us back to health. There can be no instantaneous remedy. We must possess our souls in patience. Constructive thought will have its way. We must work, and keep on working. No despair.

NORTH AND WEST TEXAS

(Continued from Page 40)

the Bartex Pipe Line Co. (Phillips Petroleum Co. subsidiary). The refinery is shut down due to its inability to obtain enough crude from the area. The petitioners which seek higher allowable for the fields claim they could supply the refinery and markets, and preclude waste if granted the new pool limit. The commission will take the petition under advisement and give such relief as may be necessary and proper.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Texoma Natural Gas Co.'s No. 1-P Burnett, top pay 2,437-2,615 feet, initial production 29,900,000 feet of gas, total depth 2,780 feet.

Gray County

Skelly Oil Co.'s No. 4 North Jackson, oil showing 3,095 feet, drilled to 3,197 feet, plugged back to 3,147 feet, no increase. Texas Producers Oil Co.'s No. 3 Brown, oil showing 3,272 feet, total depth 3,340 feet, to plug.

Moore County

Shamrock Oil & Gas Co.'s No. 1-C Coffee, oil 3,544 feet, total depth 3,595 feet, shot 360 quarts 3,550-95 feet, initial production 100 bbls. on gas lift.

Wheeler County

Clavity and others' No. 1 Porter, dry and abandoned, total depth 3,075 feet.

COMPLETIONS IN WEST TEXAS

Ward County

Prairie Oil & Gas Co.'s No. 2 Edmondson, top pay 2,420 feet, shot 30 quarts 2,500 feet, initial production 35 bbls., total depth 2,513 feet.

Reeves County

Exploration Co.'s No. 1 McKinney, spudded March 3, 1927, dry and abandoned 2,900 feet, completed December 2, 1931.

COMPLETIONS IN WICHITA FALLS DISTRICT

Archer County

Petroleum Producers Co. and others' No. 1 Richardson, oil sand 1,128-37 feet, initial production 56 bbls., total depth 1,137 feet. Snoddy and Somers, temporarily abandoned. United Producers Co.'s No. 1 Logan, sandy lime 1,200-13 feet, shot 90 quarts, initial production 11 bbls., total depth 1,213 feet.

Foard County

The Texas Company's No. 1 K. Johnson, dry and abandoned, total depth 4,409 feet.

Wichita County

R. P. Dorian's No. 1 Musgrave, dry and abandoned, total depth 603 feet. Burns and Long's No. 8 Heieerman, oil sand 1,675-87 feet, initial production 1 bbl. oil, total depth 1,740 feet. R. R. Clark's No. 2 Ward and Todd, dry and abandoned, total depth 890 feet. Madison Oil & Gas Co.'s No. 19 Burnett, originally completed March 10, 1927, drilled deeper oil sand 1,554-62 feet, initial production 12 bbls., total depth 1,562 feet. MoGrren and Anderson's No. 1 E. E. Goetze, dry and abandoned, total depth 500 feet; No. 22 Goetze, dry and abandoned, total depth 485 feet; No. 23 Goetze, oil sand 400-05 feet, initial production 20 bbls., total depth 405 feet; No. 24 Goetze, oil sand 873-909 feet, initial production 50 bbls., total depth 909 feet; No. 25 E. E. Goetze, oil sand 885-909 feet, initial production 75 bbls., total depth 909 feet; No. 26 E. E. Goetze, oil sand 892-904 feet, initial production 216 bbls., total depth 904 feet. Red River Oil Co.'s No. 95 Bywaters, oil sands 125-28, 325-29, 740-48, 1,040-50 and 1,478-92 feet, shot 15 quarts, initial production 30 bbls., total depth 1,492 feet.

Wilbarger County

Waggoner Refining Co.'s No. 14 Waggoner, sandy lime 2,539-43 feet, base of sand 2,411-83 feet, initial production 40 bbls. oil and 8 bbls. of water, total depth 2,543 feet; No. 16 Waggoner, oil sand 1,850-82 feet, initial production 8 bbls. oil, total depth 1,882 feet.

Young County

Brazelton and Price's No. 1 White, dry and abandoned, total depth 802 feet. Cooper Mitchell's No. 3 Dunagan, oil sand 937-44 feet, initial production 30 bbls., total depth 944 feet. N. D. Goldsmith's No. 1 Wilson, oil sand 933-37½ feet, initial production 61 bbls., total depth 937½ feet. W. H. Hammon's No. 1 Jeffery, dry and abandoned, total depth 908 feet. Jack Harris' No. 1 Blackman, temporarily abandoned. United Producers' No. 5 Larimore, oil sand 702-04 feet, initial production 50 bbls., total depth 704 feet. R. J. Watson's No. 10 Watson, oil sand 682-87 feet, initial production 82 bbls., total depth 687 feet. C. C. Williams' No. 1 Leberman, dry and abandoned, total depth 500 feet. D. L. Wolf's No. 2 Wolf, oil sand 872-94 feet, initial production 50 bbls., total depth 894 feet. Wooten and Reed's No. 1 Robinson "A," oil sand 698-702 feet, initial production 25 bbls. oil and 45 bbls. of water, total depth 702 feet.

TANK WAGON CHANGES

(Continued from Page 70)

Denver, Colo., and Cheyenne, Wyo. Effective February 24 the company reduced gasoline tank wagon and service station prices 2 cents at Billings, Mont.

Standard Oil Co. of Kentucky, effective February 29, advanced gasoline service station price 1 cent at Jacksonville, Fla.

Standard Oil Co. of New Jersey, effective March 1, advanced gasoline tank wagon price 2.5 cents and service station 2 cents.

Standard Oil Co. (Indiana), effective February 20, reduced gasoline service station price at Huron, S. D., 1.4 cents to 16 cents.

OKLAHOMA REFINERY GASOLINES ADVANCE

(Continued from Page 12)

At the same time, it is pointed out that there is at least one more month before a sustained seasonal improvement in gasoline demand is assured. In this connection the price advance the first of the week was greeted with the coldest weather of the winter in the southwestern states, with cold weather general throughout the Middle West.

The other possible stop to any advance in refinery gasolines is the natural gasoline situation. Price ranges on the several grades of this product have not shown any sustained improvement over the past month. The 26-70 grade which is the most actively traded, was selling at a price range of 1⅜ to 1½ cents on Monday and Tuesday with plenty of material offered.

As explained in these columns last week the natural gasoline manufacturers in order to get rid of their output have been forced to go more and more to stabilization to the point where considerable material is being sold direct to jobbers as motor fuel. Based on 1⅜ to 1½ cents for the 26-70 grade suitable natural gasoline either in the form of finished motor fuel or the various grades of blends can be made available at 3 cents per gallon or less. Most of this material will have an octane rating coming within the 57-65 range. The comparative situation is apparent when it is realized that refiners are now asking 3¾ cents for the middle octane grade.

The conclusion is that refiners and exporters who normally absorb the greater part of the natural gasoline output, must bring about a healthier situation than now exists in the natural gasoline industry before their own market can be said to be on a sound basis.

Gasoline and Naphtha

The U. S. Motor low octane gasoline in Oklahoma was firmly established at a low of 3 cents the latter part of last week. This was not brought about by any arbitrary action of refiners but was due to the steady absorption of gasoline which had been available in February at 2¾ and 2⅞ cents. Low priced sellers enjoyed a better business and they were able to advance to the 3-cent level and still maintain their day to day sales.

It remains to be seen what reception the new prices of 3¼ to 3½ cents established on Monday and Tuesday will receive. There are reports that the market is to receive support from larger refiners within and outside the Mid-Continent. Some of these refiners have reduced their own crude oil runs to stills and it is said will buy the low octane gasoline to be sold through their own stations as a third grade. A program of this kind was in effect several weeks last fall and resulted in a rapid advance in quotations. A reaction quickly materialized when the interrefinery buying stopped.

There was little change in the refinery gasolines varying in endpoint from 390 to 350 and between 62 and 70 gravity. The market for these grades is dull. The increasing quantity of stabilized natural gasolines has been felt by the refinery sellers of high gravity gasolines. These stabilized grades have a higher gravity, better distillation range and are being sold from one-half to 1 cent a gallon under what refiners think they should get for their products.

The 64-66 375 was available in Oklahoma at a low of 3¾ cents with 4 cents the low on 350 and 360 endpoint material.

Kerosene

Kerosene prices are unchanged at 2⅝ to 2¾ cents for 41-43 water white and one-eighth cent more for 42-44 gravity. Oklahoma refiners are having some competition from St. Louis and Chicago refiners who are willing to quote jobbers in their immediate territory on a basis of 2½ cents Group 3 for the 41-43 water white material. In addition there is some high endpoint and high flash kerosene available in Oklahoma at 2½ cents. The demand is fair according to several sellers.

Furnace Oils

The cold spell apparently prevented a general decline of one-eighth cent in quotations on the better grades of furnace oils. The unexpected warm weather previous to the cold period and the fact that the consuming season is nearing an end, resulted in surplus material making its appearance in the market early last week. The cold weather brought additional spot buying and Oklahoma prices were firm the first of this week.

Several refiners have more furnace oil in their storage tanks than they will need to complete the season but so far they have not shown any tendency to force sales with lower prices. One refiner said his company will hold the furnace oil material that they will have left at the end of the season. It will be cracked into gasoline during the summer season or held until next fall in expectation of higher prices next season.

Prices on furnace oil range from 1¾ to 2¼ cents the latter price covering a prime white distillate, most of which is sold as tractor fuel rather than a furnace oil.

Natural Gasoline

As previously explained, the 26-70 grade of natural gasoline is selling at

REPORT OF BUREAU OF MINES FOR THE MONTH OF JANUARY

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during January, 1932, amounted to 66.884.000 bbls., a daily average of 2,158,000 bbls. This represents a decrease from the previous month of 9 per cent, but is slightly above the output a year ago. Production in the East Texas Field, the leading producing field in the country, continued to decline in January, when the daily average output amounted to 318,000 bbls. compared with 358,000 bbls. in December. All the major producing districts in Texas registered declines in January and the total output for the State was 9 per cent below December but 21 per cent above a year ago. Daily production in California continued steady at just above the 500,-000-bbl. mark. All of the major fields in Oklahoma curtailed their output in January. This decline was particularly noticeable in the Oklahoma City Field and, as a result, that field fell below Seminole in output.

The curtailment in crude production exceeded the seasonal decline in demand and stocks decreased. This contrasts with the experience of November and December, when crude stocks increased. Total crude stocks, exclusive of heavy crudes in California, amounted to 369,382,000 bbls. on January 31, compared with 371,-230,000 bbls. on hand as the year opened.

Refined Products

Daily average runs to stills of crude petroleum declined from 2,346,000 bbls. in December to 2,217,000 bbls. in January. This decline only affected domestic crude as the daily average runs of foreign crude remained stationary at 108,-000 bbls.

The daily average output of motor fuel continued to decline and amounted to 1,-082,000 bbls., compared with 1,163,000 bbls. daily a month ago and with 1,055,-000 bbls. daily a year ago. Exports of motor fuel increased materially over December but were 30 per cent below a year ago. The indicated domestic demand for motor fuel totaled 26,845,000 bbls., a daily average of 866,000 bbls. This represents a material decline from December but is 2 per cent above a year ago. Stocks of motor fuel, including stocks held at bulk terminals, amounted to 57,362,000 bbls. at the close of January, compared with 52,870,000 bbls. on hand January 1, a gain of 4,492,000 bbls. At the current rate of total demand, the January stocks represent 59 days' supply compared with 49 days' supply on hand a month ago.

The refinery data of this report were compiled from schedules of 342 refineries, with an aggregate daily recorded crude oil capacity of 3,676,610 bbls., covering, as far as the bureau is able to determine, all operations during January, 1932. These refineries operated during January at 60 per cent of their recorded capacity, given above, as compared with 344 refineries operating at 64 per cent of their capacity in December.

1⅜ to 1½ cents both in Oklahoma and Texas. The optimistic feel that the higher prices for refinery gasolines will bring a better demand and this price before the end of the month will be advanced to a 2-cent low.

The 18-55 grade is being sold at a price range of 1¾ to 2⅛ cents. Grades of lower vapor pressure than required for the 18-55 grade are selling up to 3 cents a gallon. One sizeable sale of 12-pound material at 2½ cents was reported.

Lubricants

Sellers of lubricants continue to be disturbed by rumors of sales of neutral oils, bright stocks and finished motor oils at substantial price concessions. If these reports are true it means that finished motor oils are being sold without any regard to the cost of the material used in compounding the oils. The compounders are alleged to be making the sales using whatever stock they can get at the lowest price, some of the neutral oils coming from the Gulf Coast plants.

Some refiners are expecting better buying of Mid-Continent bright stocks. The domestic consuming season is near and it is also claimed that stocks of foreign buyers are low.

PLAN $1.00 FUEL OIL AND 8-CENT GASOLINE

(Continued from Page 13)

tain how much the representatives of each participating country (excluding the United States) consider their country should produce under the world conservation scheme. Each representative will table this figure, hereinafter called the "declared minimum."

Production Abroad

Let us assume that these claims in barrels per day amount to:

	Bbls. per day
Venezuela	368,000
Russia	373,000
Persia	116,000
Rumania	108,000
Mexico	85,000
Dutch East Indies	100,000
Colombia	52,000
Peru	27,000
Trinidad	24,000
Poland	11,000
Sarawak	14,000
Ecuador	4,000
Total	1,282,000

This is equivalent to 468,000,000 bbls. per annum.

From the part which the U. S. oil industry should take in this plan, as mentioned above, it is clear that the world's oil markets, excluding the U. S. home market, are affected by U. S. production to the extent of the excess of U. S. exports over imports, i.e., 6,000,000 bbls. gasoline plus 2,000,000 bbls. kerosene plus 2,500,000 bbls. of "other products" equals 10,500,000 bbls. of proudcts per quarter or 42,000,000 bbls. per annum.

The total quantity of oil produced affecting the world market outside the United States would therefore be the sum of the above "declared minima," i.e., 468,000,000 bbls. per annum plus the excess of U. S. exports over imports, i.e., 42,000,000 bbls. per annum equals 510,000,000 bbls. per annum.

Normal Consumption

It is beyond discussion that the flood of surplus oil today has caused it to find an outlet outside its "normal" use. This has only been possible by this surplus oil being sold at such low prices as to displace other products (mainly coal) and simultaneously bringing down the entire price structure of the world's oil market to a disastrous level.

In order, therefore, to conserve the world's oil riches for the world's "normal" requirements, one of the tasks of the international meeting must be to ascertain the production necessary to satisfy the "normal" consumption of the world outside U.S.A. Let us assume that the figure so established is 100,000,000 bbls. per annum below the above mentioned "declared minima" plus the agreed exports from the United States plus the production in those countries where imports are larger than exports. In other words, by producing during the next 12 months 100,000,000 bbls. less than their "declared minima" the countries co-operating under the conservation plan would cause world production to be in line with "normal" world consumption.

These 100,000,000 bbls. by which the "declared minima" of these countries exceed the "normal" world consumption is what may be called the "top" of their production—that is to say, that part of their production that cost them least of all. It is, so to say, the production which they can get by opening up their wells just a little more. I think I may assume that the average cost of that part of their oil is not more than 20 cents per barrel. In calculating the net back on the products contained in this "top" of the crude production, the cost of refining need not be charged with any of the overhead expenses of pumping and refining that crude. However low, therefore, the returns are, I think I may assume that the production and selling of the products contained in the "top" of their crude production still leaves the producers a return of say, 40 cents per barrel, or, in other words, a cash profit of 20 cents per barrel.

Indemnity for Restriction

In order to induce the producers of the aforementioned countries not to produce the 100,000,000 bbls. (which we have found to be the "declared yearly overproduction") those producers would therefore have to be offered 20 cents per barrel as an indemnity for not producing that quantity. The moment, however, that the industry has come together on such a scheme one may assume that prices would improve and that therefore the calculated profit of 20 cents per barrel would no longer be good enough to induce producers to restrict their production. I assume that my calculated profit of 20 cents per barrel would, as a result of the world-wide arrangement, increase at once (by a rise in the price of products) to 40 cents per barrel. We should therefore have to offer for each barrel by which the actual production remains below the "declared minima" a payment of 40 cents per barrel. The "declared yearly overproduction" being 100,000,000 bbls., the "declared overproduction for a quarter" is 25,000,000 bbls., and that multiplied by 40 cents per barrel gives an amount of $10,000,000. This amount would have to be available before the beginning of the first quarter year of the arrangement in order to have a sufficiently strong financial inducement to bring overproduction to an end, and is to be found by the oil industry in each of the countries co-operating under the plan, and also the United States, paying respectively an amount of about 8 cents per barrel or the quantities represented by their "declared quarterly minimum" and an equal amount per barrel on the agreed quarterly excess of U. S. exports

$$\text{over imports} \frac{510{,}000{,}000}{4} \times 8 \text{ cents} =$$

$10,000,000. In other words, on the "declared quarterly minima" plus the "agreed quarterly excess of U. S. exports

$$\text{over imports," i.e. } \frac{510{,}000{,}000}{4} = 127{,}500{,}000 \text{ bbls.}$$

the oil industry in the above countries has to pay into the central fund before the beginning of the first quarter 8 cents per barrel.

If any of the countries represented would consider the total sum to be found by it as too great a burden, it can reduce it by decreasing its "declared minimum production."

Tax on Drilling

The oil industrialists in each of the countries mentioned (with the exception of U.S.A.) undertake to get their respective governments to prohibit drilling altogether or alternatively to put a tax of at least $30 on each foot drilled as soon and as long as the production of that country is above its "declared minimum." Otherwise every country is free to produce whatever it chooses, i.e., below or above its "declared minimum." I rely on the prohibition of drilling or alternatively on the tax on drilling to act as a powerful brake for the producers not to go above their "declared minimum," but there need be no undertaking on the part of anybody not to produce more than the "declared minimum."

Purposes of Fund

The fund accumulated before the first quarter is at the end of the quarter distributed pro rata to those countries which produce less than their "declared minimum" if during that quarter the total production of all the countries together has been less than their "combined declared quarterly minimum." The existence of this fund will work as an inducement for producers to produce less than their "declared minimum" in order to participate in the distribution of the fund at the end of the quarter and it is therefore a practical certainty that the total production of all the countries together will be less than their "combined declared quarterly minimum," in other words, it is a practical certainty that the first quarter's fund will be divided after the end of the first quarter and consequently that those who co-operated to bring overproduction to an end will get their just reward. The United States will not participate in the distribution of the fund.

Suppose that during the first quarter all countries have produced up to their "declared quarterly minimum," with the exception of Venezuela having produced 7,000,000 bbls. below their "declared quarterly minimum," Persia 2,000,000 bbls., Dutch East Indies 3,000,000 bbls., Trinidad 1,000,000 bbls., and Rumania and Mexico respectively 3,000,000 bbls. and 2,000,000 bbls., below their "declared quarterly minimum." In total, therefore, the production of all countries co-operating under the plan has remained 18,000,000 bbls. below the "declared quarterly minimum." The available fund of $10,000,000 would, therefore, be paid to the oil industry of Venezuela, Persia, Dutch East Indies, Trinidad, Rumania and Mexico pro rata to the differences between the "declared quarterly minima" and the actual production of each of these countries. Therefore, producers who actually applied conservation in each of these countries would be paid on the same basis, and on an average they would receive: $\frac{\$10{,}000{,}000}{18{,}000{,}000} = 55$ cents for each barrel for which their production was below their "declared quarterly minimum."

If all the countries together would have produced during the first quarter just $\frac{100{,}000{,}000}{4}$ bbls. = 25,000,000 bbls. less than their combined "declared minimum," then on an average each of the operators applying conservation would receive out of the fund 40 cents for each barrel which they produced less than their "declared minimum" which is just the figure which I calculated was the profit they accepted to forego by producing less than their "declared minimum." The production for the world's markets outside the United States would in that case have been in balance with "normal consumption" and the oil actually produced would have been sold at an economical price, which on the lines of our previous example would at least have been 20 cents per barrel higher than during the time of overproducing.

American Exports

If, during any quarter whilst the plan is in operation, the United States would have exported more than they are entitled to, they must take back such surplus during the next quarter from the other countries co-operating under the plan in proportion to those countries' "declared minimum productions." The delivery should be c.i.f. in the principal markets of consumption at f.o.b. world market price during the quarter when the United States exports exceeded the agreed figure plus the ruling freight during that quarter.

After the first quarter has passed off satisfactorily and the first quarter's "fund" has been distributed amongst the producers who applied conservation it is reasonable to assume that as a result of higher market prices for oil we should have to offer the combined producers of each of the above countries during the second quarter a bigger reward than 40 cents per barrel in order to induce them to remain producers below their "declared minimum." Once prices have improved, however, it will be much simpler for the oil industry in these countries to find an amount considerably larger than $10,000,000 as payment into the fund for the second quarter. In other words, once the fund has been started satisfactorily I do not expect any difficulty in its continuation. It might be considered advisable, however, to limit the compensation per barrel for producing below the "declared minimum" to not too high a figure.

I propose that the scheme should be continued for quarterly periods until for a period of six consecutive months the free market price of liquid fuel f.o.b. in the Gulf of Mexico (or such other market as may be considered as most correctly representing the world market price) has been at least $1 per barrel and during the same period the price of 64° Be. gasoline has been not less than 8 cents per gallon. After these prices have existed for at least six consecutive months for both fuel oil and gasoline simultaneously the scheme would be called off, but would be reintroduced as soon as the prices would come down to below these critical levels.

Right to Cancel

A necessary condition is to be made as to the right for every country, excluding the United States, to cancel this scheme. The stock position in the United States must be kept within such limits as not to become a menace overhanging the rest of the world's markets if at any time the scheme should be called off. The producers outside the United States must be secured against the possibility, whilst they are limiting production and drilling, that the United States should be accumulating still larger stocks than they have already, with which, if at any time the scheme should be called off, the markets outside of the United States could be flooded. Therefore, as soon as the total stocks of crude and products in the United States should exceed 620,000,000 bbls. (approximately today's total) any country other than the United States must have the right to give notice of termination of the scheme by the end of the quarter year during which this figure was exceeded. This condition will also clearly demonstrate that this plan will in no way result in any restraint of trade in the United States. To the contrary. As stocks may not go above a certain level without running the risk to see the scheme canceled, this condition will be an inducement to stimulate the outlet on the interior market.

As soon as the scheme is called off, the prohibition of drilling, or alternatively the tax on drilling, is to be called off. The simple machinery by which the International Oil Meeting controls the operation of the plan must, of course, be kept intact, even during such times as the plan is not functioning as indicated in the previous paragraph, so that at any time when prices have again dropped below the economical level, the plan will be reinstated.

Oil Industry Finance Syndicate

It is reasonable to assume that some of the smaller companies, however anxious they are to join the scheme, would find it difficult to find before the beginning of the first quarter an amount of 8 cents per barrel for their "declared minimum." Very likely some companies are already in the hands of the banks to a very large extent and might find the banks unwilling to provide the money for their payment into the fund. In order to avoid such difficulties, which would wreck the whole scheme, I suggest that the major companies inside and outside the United States should form an "International Oil Industry Finance Syndicate" which would undertake to finance the payments into the fund of such weaker and smaller companies in case they cannot find accommodation with the banks, on certain "maximum conditions" to be fixed beforehand by the "International Oil Industry Finance Syndicate." The syndicate would undertake to do such financing on those "maximum conditions" against which they would take a first mortgage on the properties of the companies that want such financing. The improvement in the

industry that my scheme would effect would most likely result in those smaller companies paying off their debt when it falls due after the quarter for which the advance is made, but if by any chance they could not pay off, the syndicate would foreclose and it would sell such properties to the highest bidder.

The total amount that the "International Oil Industry Finance Syndicate" would have to find would be by no means unreasonably large. As I mentioned before, the total amount to be paid into the fund for the first quarter might be something like $10,000,000. The major companies, of course, would be able to find their own subscription and I therefore take it that it is not exaggerated—in fact I think it very must underestimated—to assume that half of the required amount will come in without the least difficulty. That would leave $5,000,000 to be found by getting credit either from the banks or from the "International Oil Industry Finance Syndicate." Of this syndicate all the major companies of the world would be members and it is therefore clear that this group of very powerful oil companies would not have the slightest difficulty in finding the finances for an advance of $5,000,000.

Anticipates Objections

I still want to deal with the following possibility. It is conceivable that some insincere industrialist would reason as follows:

"I know that I am able to produce only 300,000 bbls. per annum, but I declare to my national representative that I consider that my minimum production is to be 3,000,000 bbls. I will then pay into the fund 3,000,000×8 cents per barrel=$240,000. I will produce only 300,000 bbls., and I will therefore draw for producing below my 'declared minimum,' 2,700,000×40 cents per barrel=$1,080,000 which will give me a handsome profit of $840,000 for nothing."

Such an insincere industrialist would, however, take a tremendous risk—such a risk that I think he would never play such a trick.

As I have described above, the payments out of the fund are not paid by the fund to each of the industrialists who produced less than his "declared minimum" but to the combined industrialists of each of the participating countries that have produced less than their "declared national minimum." Our insincere industrialist may therefore be caught in the following way: Although he had produced 2,700,000 bbls. below his dishonest "declared minimum," the other industrialists in his country may have produced 2,700,000 bbls. more than their "declared minimum" with the result that the total production of the country in which our insincere industrialist works has been up to and possibly even over that country's "declared minimum." Our friend would therefore find that he would not get payment out of the fund at the end of the quarter, but that he would have contributed to the fund an amount of 3,000,000 ×8 cents per barrel=$240,000 which would be a clean loss to him. I therefore take it that we can assume that nobody will dare to declare a minimum which he knows he cannot produce.

Working of Plan

There is another point that requires discussion. Suppose the representatives of country X, in preparation for the international meeting that would put my scheme into effect, come together. As there are a number of small operators in that country one cannot assume that 100 per cent of the producers will be present. Suppose 95 per cent are represented, and those 95 per cent come to the conclusion that their "country's minimum" should be 100,000 bbls. per day. But what about the 5 per cent not present? And what about any new fields that may be discovered during the first quarter's operation of the scheme? The meeting of that country's operators may then decide in the following way: They may either ignore the 5 per cent that are absent and the not-yet-discovered oil fields and declare as their "country's minimum" 100,000 bbls. They will then have to find amongst themselves for the first quarter's production (91 days) 100,000×91×8 cents=$728,000 and prohibition of drilling or alternatively a drilling tax of at least $30 per foot is introduced in that country as soon as that country's production is above 100,000 bbls. per day. If the meeting of operators thinks it wise to leave more room for the absent 5 per cent and for the new fields that may be discovered, they are perfectly free to fix their minimum at, say 120,000 bbls. In that case the prohibition of drilling or alternatively the tax on drilling will only start when the production goes above 120,000 bbls.; but on the other hand they will have to find as a participation in the fund 120,000×91×8 cents=$873,600.

Of course these last two calculations are not perfectly correct because the figure of 8 cents a barrel would be affected to a minor extent by the higher "minimum declaration" of the particular country's producers. However, in order to explain my proposal I do not think it is necessary to go into this mathematical detail.

Effect of New Field

Although I expect that the application of my scheme will cure matters within a reasonably short time, we must consider what would happen if the scheme were still working at a moment when, in a country which up to now has not produced oil, a major oil field would be brought in, thus placing that country amongst the world's oil suppliers— e.g., Iraq. Such an occurrence need not upset the scheme at all. Suppose the Iraq pipe lines are built and ready for operation with a capacity of 28,000,000 bbls. per annum, then all that has to be done is that the "Iraq oil industry" become members of the scheme with all its rights and obligations; that is to say they pay as contribution to the fund for a minimum production of 28,000,000 bbls. per annum, or so many barrels as they decide themselves, and draw from the fund if their production remains below their "declared minimum." Of course the smaller their "declared minimum" the easier things will be in general, but just as little as a large "declared minimum production" for any of the other countries would upset my scheme, as little would a figure of 28,000,000 bbls. for Iraq upset it. Of course their appearing on the scene would affect the contribution per barrel for all the participants, but not to an extent which would endanger the scheme.

As the Iraq production is controlled by a small number of world oil interests, in this case instead of getting the Iraq Government to prohibit drilling or alternatively to levy a tax on drilling as soon as production would go above the "declared minimum Iraq production," it might be arranged that the Iraq producers would give a binding undertaking that on no condition would they produce more than their "declared minimum" production as long as the scheme is in operation.

A similar binding undertaking might be given by the Dutch East Indies, Colombia, Persia and all those countries principally controlled by one or two producing groups. For all those countries, there would in that case be no need to give the undertaking that under certain conditions a drilling tax or prohibition would be instituted as such "certain conditions" could not arise.

This scheme is not intended to supersede any other arrangements that exist already or may still be made to bring production into balance with consumption. Such arrangements, including a state compact in the United States will work equally well and with more purpose with my scheme than without it.

Needs No U. S. Law

It may be claimed for this plan that it has the merit of obviating the risk of exploiting the consumer, because as soon as a "normal" level of prices is reached, the arrangement is called off and all producers regain complete freedom of action, and the plan only becomes operative again when prices drop below a certain emergency level. Therefore, supervision or interference by governments will not be necessary. Furthermore, the scheme can be put into effect without delay as it need not wait for any change in the laws of the United States. It will not only save the oil industry, but will be of great help to the coal industry, as it will restore to the latter industry all those previous buyers of coal who only went over to oil on account of its absurdly low price.

In conclusion, I would mention that in recent times, in various fields of industrial activity, different plans have been proposed to balance production with consumption.

I am in entire agreement with the criticisms which have denounced most of those schemes as cumbersome and hence probably unworkable on account of the complicated systems of control which they necessitate in order to put artificial brakes on production.

As the plan I have outlined takes full account of the functioning of economic laws, and only speeds up the result which economic laws bring about over a longer period, my plan does not require any complicated machinery.

The chief elements this plan requires to restore the balance between production and consumption are:

First. That the international oil industry has the conviction that only an international agreement can put things right.

Second. That a fund is created to speed up the normal reactions of the law of supply and demand.

Third. That the U. S. industry accept an export position as I have outlined, until such time that their laws will permit them to join the scheme on the same conditions as all the other countries.

Fourth. That the drilling tax or prohibition outside the United States is instituted as indicated where and when necessary.

SUGGESTS ONE CHANGE IN HOBBS PRORATION

SANTA FE, N. Mex., Mar. 5.—Gov. Arthur Seligman's counter proposal for a new oil proration agreement in the Hobbs, N. Mex., field, would authorize the New Mexico state geologist to withdraw his approval of the agreement in the same manner as the major oil operators are permitted to withdraw their participation.

The proposal, otherwise the same as the original agreement and the memorandum of extension, the governor said, has been sent to Dallas to E. G. Allen, chairman of the Hobbs Proration Executive Committee.

It was submitted to Allen in lieu of the new proration agreement signed by 28 major oil operators and James F. Hinkle, state land commissioner, which was submitted to Governor Seligman on January 10, for his consideration. That agreement has not become operative.

Permission to store oil was embodied in both the operators' proposal and the governor's redrafted proposal.

"The operators' proposal and the redrafted propsoal," the governor said, "both omit any provision for a minimum or maximum output from the field.

"A strong factor in favor of approving proration in the Hobbs Field upon the basis of the redrafted agreement is that in the large oil producing states the oil industry is faced with a critical situation and every effort is being made by the authorities in those states to hold production within the limits of the market demand and it is felt that New Mexico should express its approval of the policies in force in those states and should show its willingness to co-operate with such states in every way possible."

CRAIN SUCCEEDS LAWHON

HOUSTON, Tex., Mar. 5.—The Texas Company has announced the appointment of W. O. Crain as general attorney for the company, to succeed the late Judge Thomas J. Lawhon.

Mr. Crain has been identified with The Texas Company legal department for 22 years, stationed in Houston. For three years, before joining The Texas Company legal staff, he was head of the legal department of the general land office in Austin.

APPOINTS MAIN AND REGIONAL COMMITTEES

The main and eastern committees of the American Petroleum Institute's central committee on measuring, sampling and testing crude oil for 1932 have been reappointed by Charles F. Roeser, chairman of the general committee of the division of production, as follows:

Main committee—W. S. Farish, Humble Oil & Refining Co., Houston, chairman; T. A. Dines, Midwest Refining Co., Denver; O. D. Donnell, Ohio Oil Co., Findlay; R. W. Hanna, Standard Oil Co. of California, San Francisco; E. B. Reeser, Barnsdall Oil Co., Tulsa, and C. A. Young, American Petroleum Institute, Dallas, secretary.

Eastern area—O. D. Donnell, Ohio Oil Co., Findlay, chairman; W. J. Brundred, Brundred Oil Corp., Oil City; D. S. Bushnell, Northern Group of Pipe Lines, New York; E. M. Clark, Standard Oil Co. of New Jersey, New York; C. E. Crawley, Sinclair Consolidated Oil Corp., New York; E. J. Henry, Atlantic Refining Co., Philadelphia; F. B. Howland, Kewanee Oil & Gas Co., Titusville; R. W. McIlvain, Pure Oil Co., Chicago; J. Edgar Pew, Sun Oil Co., Philadelphia; J. N. Pew, Jr., Sun Oil Co., Philadelphia; E. L. Shea, Tide Water Oil Co., New York, and L. W. Young, Jr., South Penn Oil Co., Pittsburgh.

COLOMBIA OIL OUTPUT WAS LOWER LAST YEAR

NEW YORK, Mar. 5.—Production of petroleum in Colombia during 1931 yielded the government of that country $761,000, approximately $730,000 less than oil revenues during the preceding year, according to official announcement.

During 1931 Tropical Oil Co., subsidiary of the Standard Oil Co. (New Jersey), and the only active producer of Colombia petroleum at present, took 18,234,679 bbls. of crude from its wells, a decrease of 2,112,000 bbls. from its 1930 output. Tropical paid the Colombian government a 10 per cent royalty, amounting to $510,000, as compared with its payments of $1,186,662 in 1930.

Andian National Corp., Tropical's pipe line subsidiary, paid the Colombian government $251,373 in 1931, in lieu of oil transportation, as contrasted with payments of royalties of $309,000 in 1930.

Reports from Bogota indicate that 1932 crude oil production in Colombia will be under the 1931 average of 1,519,000 bbls. monthly.

Although Gulf Oil Corp. has acquired final control of the much-disputed Barco concession in Colombia, present indications, according to Bogota advices, are that the company will not be able to get into production for at least three years. The company's geologists are now working on the Barco tract, but extensive drilling and construction of the necessary pipe line facilities is still far in the future.

The question of government concessions for oil development is being cleared up slowly, through the Colombian courts, and the government is expected to announce the granting of two such concessions in the near future.

ALBERTA GEOLOGISTS

CHATHAM, Ontario, Mar. 5. — The Alberta Society of Petroleum Geologists held its fourth annual meeting at Calgary and elected the following officers for the ensuing year: President, Delmer L. Powers; vice president, J. S. Irwin; secretary-treasurer, A. J. Childerhose, and business representative, T. B. Williams.

INDEX OF ENGINEERS

An index of American engineers and engineering firms including information on mining companies, paving contractors, state highway departments, U. S. corps of engineers and American engineering companies operating abroad has just been issued by William Stack, Box 203, Park Ridge, Ill.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

WOULD UNDERREAMING HELP?

I am a producer in this field. Our wells are 460 feet deep and are drilled with 4⅝-inch hole. We have about an 8-foot sand. Production varies from a few gallons to a few barrels a day. The rock resembles old hard maple sugar. There is practically no gas. By enlarging these wells in the sand by underreaming would the flow be increased materially? What should the ratio of increase be as the hole is increased in size? I understand there are underreamers that will double the size of the hole. Any information on this subject will be appreciated.—C. H. B.

This is a complex problem and according to engineers consulted the probable rate of increase in oil production from the type of wells you mention will not depend entirely upon the size of the hole drilled. If the hole is made larger by underreaming it will expose more sand pores through which the oil can escape into the well, and for a time this increase might be noticeable.

In the oil fields of Pechelbronn, France, where the oil is obtained by mining methods, it is common practice to remove the drained surface area of drifts when the rate of oil flow decreases to a minimum. The amount of sand removed will vary in thickness according to local conditions. When the new sand face is exposed it has been noted that the oil begins to flow freely from the whole surface, that is, from top to bottom of the cut. As the pressure driving the oil out of the sand decreases this drainage area narrows from top to bottom until only a small amount of oil is being produced from the very lowest portion of the exposed face. It is then that the drained sand is removed and a new face exposed.

To some degree this same condition would obtain in a drilled hole. As new surfaces are exposed the rate of oil flow would increase. However, in the drilled hole the size of the hole is limited. So after the underreaming has been completed and the new surface becomes clogged with congealed paraffin the rate of production would decline.

Taking all things into consideration it is believed you could best shoot your well and thereby increase its production for a fairly long period. A paper on shooting wells is being sent to you and it is probable you can get valuable information from it.

If you care to go into the problem of sand drainage it is suggested that you get a book written by Stanley Herold, entitled "Production of Oil, Gas and Water." In this book you will find complete information from which you can analyze your problem.

It is apparent that your inquiry is prompted by or based on the theory that the yield from a producing well is somewhat proportional to the wall area of the hole in the pay structure. Results indicate that this theory works out in practice only to the extent of the rate of oil flow to the cavity. In other words, the flow of oil to the cavity is not dependent upon the size of the cavity so much as it is upon the factors that control the rate of flow to the cavity; hence it is desirable to accelerate such rate of flow to the greatest extent possible. The rate of oil flow is dependent upon several controlling factors, such as fragmentation of oil-bearing structure, degree of capillarity, rock pressure, gas pressure, vacuum, etc.

Engineering opinion obtained in connection with your question is to the effect that fragmentation of the oil structure over the widest possible area is essential in order to obtain maximum production, regardless of what other natural or artificial condition may be present.

A solid, homogeneous structure such as you describe can be broken over a wide range only by high explosives of suitable type properly placed. Fragmentation assists other contributing factors, as through it their action is facilitated by opening numerous avenues for the escape of the oil from the structure to the central cavity created by the shot at the bottom of the well.

ARTICLES ON SABINE UPLIFT

Could you inform me of any publication which treats the Sabine uplift? I have not been able to find any government publications which deal with it.—M. S. R.

The American Association of Petroleum Geologists, Tulsa Building, Tulsa, has an article on the Sabine Uplift by Dr. Sidney Powers, in Vol. IV, No. 2, 1920. The book costs $3.

Another paper on the same area is by C. L. Moody, in A.A.P.G. Bulletin, Vol. XV, No. 5, May, 1931, cost $1.50.

These are carefully prepared articles on that area and if you will address the American Association of Petroleum Geologists, Tulsa Building, Tulsa, it will be glad to send you a list of its shorter publications.

If you will write to the U. S. Government Printing Office, Washington, D. C., you can get a list of all U. S. Geological Survey publications and some of them are likely to deal with the area you mention.

It is assumed that you already have obtained from the Louisiana Geological Survey such information as it can supply. It should at least have a bibliography of publications on the area.

There are several general geologies that treat this region and a list of such publications prepared by the Tulsa Public Library, Technical Department, can be obtained on request.

PIPE LINE DAMAGE FROM DUST

We are experiencing a good deal of annoyance as a result of dust from some source or sources in a gas pipe line. We find it causes some damage to valves, and we are wondering if it is likely to cause any other damage. If you can tell us anything about the experience of others along this line we will appreciate it.—L. D. A.

Dust produced by dirt of different kinds or accumulating in other ways may cause serious impairment of efficiency in a pipe line. Some of the troubles resulting from pipe line dust are enumerated as follows by D. A. Sillers, of the Lone Star Gas Co.:

"1. In many cases dust has made necessary the shutting down of compressors daily for the regrinding and cleaning of valves and have caused very frequent replacement of rings and liners.

"2. Pressure-reducing regulator valves are cut out so that they will not shut off when required and often are so badly worn that they are almost totally ineffective.

"3. Deposits on orifice meter plates often build up to a thickness of one-quarter inch or more near the orifice and may result in making the meter as much as 8 or 10 per cent slow due to the sharp square edge being replaced by a surface which approaches the venturi stream line flow.

"4. Positive meters have been found to fill up with dust until they cease to run, the valves become badly scored resulting in the slow registration and the dust cuts out working parts and bearings, resulting in expensive repairs and replacements.

"5. The clogging of fittings, burners and pilot lights is the form of dust trouble which is most harmful from the standpoint of losing the good will of the industrial and domestic consumers. The clogging of pilot lights in water heaters is one of the first and most troublesome of dust problems. This is usually followed by the clogging up of burners in the domestic appliances and then by the clogging of burners in industrial installations.

"6. Clogging of gasoline plant apparatus is another major difficulty resulting from dust in the line. A mineral seal oil absorption plant forms almost an ideal dust trap. The absorbers become filled with dust, the oil soaked dust becomes packed, causing channeling in the baffle type and filling up the trays in the bubble type absorbers, and often bridges over oil outlets when operations are temporarily discontinued, resulting in difficulty in putting the apparatus back into service.

"7. Reduction of capacity of pipe lines is a dust trouble which is not so generally encountered, although one company has found this a serious matter and reports finding a joint of 18-inch pipe which had been reduced to a 6-inch opening by hardened cakes of oily dust in the line."

WHY WAS IT CALLED THAT?

SPEECHLEY SAND

The Speechley sand, which has yielded more natural gas than any other sand in Pennsylvania, was named for the man who discovered it, the late Samuel Speechley. Mr. Speechley in 1885 started a well on his farm near Coal Hill in Venango County, intending to drill 3,000 feet if necessary in search of the Bradford sand. Neither oil nor gas was encountered in the usual formations, and veteran operators advised him to abandon the hole. He went on. At 1,944 feet, 500 feet below any of the Venango sands known at that time, the drill penetrated what since then has been called the Speechley sand. The gas pressure was so strong at 3 feet in the formation that the tools had to be withdrawn. The Oil City Fuel Co. leased the well and turned the gas into its line without being able to gauge it on account of the immense volume. This Speechley farm test opened a gas field on which hundreds of wells later were drilled. It is about 30 miles long, with an average width of 3 miles. The sand ranges from 50 to 100 feet in thickness.

NEW WELLS IN REPRESSURING

Is it regarded as advisable to drill additional locations for repressuring operations where the property is an old one? If it is, should the new locations be used for producing wells or for pressure wells?—O. E. S.

Most engineers express the view that under ordinary circumstances it is both needless and unprofitable to drill new wells for injection purposes on an old property if the wells already drilled are so spaced as to effect the most economic drainage of the producing formation and thus to allow selection of enough of them for injection purposes with assurance that the injected gas or air is likely to be distributed evenly throughout the oil-bearing formation.

It is declared that on many old properties the value of the added oil obtained, if new injection wells were drilled, would not pay for the cost of drilling and equipping the new input wells. It is pointed out that new wells of course will have to be drilled on old properties, if the casing in the wells is not in good condition and the casing seats are not sufficiently tight to withstand injection pressures. New wells will have to be drilled if the property to be repressured is one on which line wells are the only ones drilled and producing.

Sometimes the casing is set so high in old producing wells that production is obtained from a producing zone in which there is often a dry gas sand or a barren sand. On properties where this condition occurs it is essential for successful repressuring operations to drill new input wells in which the casing may be set to gain maximum effectiveness of the injected air or gas.

Engineers who advocate drilling new wells for repressuring purposes indicate such wells should be used as pressure wells. New wells have better casing than old wells, and the casing seats are usually in better condition to withstand injection pressures. Also, many wells in the Mid-Continent Field, in Texas, and elsewhere have been shot, making it difficult to pack off the nonproducing portion of the sand from the producing zone. On the other hand, it is comparatively easy to complete new wells so that the injection medium can be injected into the most prolific portion of the sand.

Injection pressures will probably be lower in new wells than in old wells in which the drainage area has been partly plugged by paraffin, silt, mud, emulsions and other detrital materials. Furthermore, when new wells are used as pressure wells, the oil in the saturated area about the pressure wells is more easily and more completely forced into the depleted areas, and thence into the producing wells, than if the direction of input air or gas was reversed.

Oil Industry Equipment and Supplies

TAGLIABUE INTRODUCING NEW FLUE GAS ANALYZER

The C. J. Tagliabue Manufacturing Co. of Brooklyn, N. Y., manufacturer of recording and controlling instruments is offering a new all-metal automatic flue

gas analyzer, the Tag-Mono indicator-recorder. The instrument not only indicates and records the per cent of CO_2, but also gives an accurate record of the per cent of combustibles, such as $CO+H_2$, which may be present in the flue gases. This is conceded to be extremely important in getting the whole story of what is taking place in the furnace.

The company reports that this new Tag development works on the orsat principle, analyzing chemically and indicating and recording electrically, and that it is simple in design. The large illuminated dial and pointers can be seen easily at a distance of 30 feet, and in addition the records are made on a 9-inch, 24-hour circular chart with open graduations inviting a precise study of the continuous performance curve.

The company has prepared a catalog, No. 1025, which fully describes and illustrates the new indicator-recorder.

MERIAM NOW MARKETING HIGH-RANGE MANOMETER

The Meriam Co. has placed on the market a new high range manometer, model 391, the sole purpose of which is to supply a light, portable instrument for checking the accuracy of recording flow meters. This instrument has a steel frame, stainless steel gland packers, plate glass cover, and is tested to 1,000 pounds hydraulic pressure.

Mercury, water, or Meriam No. 3 fluid, having a specific gravity of 2.97, may be used. With the No. 3 fluid this manometer will read 100 inches of water. The standard scale is 35 inches long, the right side is graduated inches and tenths, and the left side zero to 100 inches and tenths of water using Meriam No. 3 fluid.

The standard instrument is 42 inches high, 6 inches deep, 4½ inches wide and weighs approximately 20 pounds. Special instruments of any length and for higher pressures can be supplied. Complete information may be had by writing the Meriam Co., 1955 West 112th Street, Cleveland, Ohio, for its bulletin No. 17.

AMONG THE EQUIPMENT HOUSES

The Frick-Reid Supply Corp., 117 Sandusky Street, Pittsburgh, Pa., has been appointed jobber to handle the line of speed reducers manufactured by Gears and Forgings, Inc., Cleveland, Ohio.

Fred Archer, formerly president of Fred Archer, Inc., has been appointed to the Philadelphia office of the Lincoln Electric Co. He is in charge of motor sales.

Directors elected by Arthur G. McKee & Co., international engineers and contractors, are Arthur G. McKee, R. E. Baker, H. E. Widdell, L. B. Weidlein and J. D. Williams.

Everett K. Bard, who, for the past three years has been a member of the engineering staff of the Four Wheel Drive Auto Co., Clintonville, Wis., has been appointed to the newly created position of artist-engineer.

Charles N. Stoddard has been elected president and general manager of the Greenfield Tap & Die Corp., Greenfield, Mass. He succeeds Francis G. Echols, who retired after having been connected with the small tool business for over 40 years.

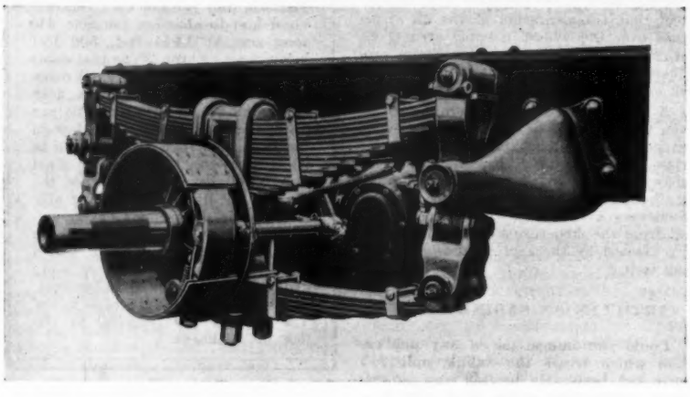
C. H. Collins has been appointed representative for the Chaplin-Fulton Manufacturing Co. of gas regulators. His offices are at 628 Dwight Building, Kansas City, Mo.

A. E. Ballin, formerly president of the McIntosh & Seymour Corp., has joined the Nordberg Manufacturing Co., Milwaukee, Wis., as vice president in charge of sales and engineering.

A distribution department has been formed by the General Electric Co. to take charge of finished stock of all products. It will be headed by J. V. Anthony, with Hancock Griffin as assistant manager.

"The business of mill coating and wrapping pipe increased 32 per cent in 1931 over 1930, signifying its continually growing acceptance with the oil and gas pipe line industry," says a letter that Hill, Hubbell & Co., Tulsa, are sending to patrons.

TWO HEAVY-DUTY INTERNATIONAL TRUCKS ANNOUNCED



Two new six-cylinder motor trucks, each with a rated capacity of 5 tons, have been announced by the International Harvester Co. of America, Chicago. These are Models A-7 and A-8, available in wheel-bases of 160, 180, 200 and 225 inches, thus adapting them to a wide variety of heavy oil field hauling, especially that encountered in tractor-trailer service and dump work.

Engines are of the six-cylinder valve-in-head type. Bore and stroke of the A-7 are respectively 4½"x5½" and of the A-8 5"x5½". The A-7 develops 107 brake horsepower and the A-8, 132 brake horsepower at governed speeds of 1,800 r.p.m. for each unit. Removable cylinders, an International feature that contributes to low-cost maintenance, are employed. Down-draft carburetion, fuel pump, oil-type air cleaner and thermostatically controlled cooling are other features of these power plants. The clutch is of the single-plate type, and the transmission has five speeds forward and two reverse. A power take-off opening is on each side of the transmission case. Frames are pressed steel channels three-eighths inch thick and 12⅛ inches deep at the center and tapering to the front and rear.

Instead of the usual two springs, there are four springs at the rear end. These are semielliptic, one mounted above and the other below the rear axle on each side as shown in an accompanying illustration. Both upper and lower springs are attached at the front to a swivel-beam equalizer, which equalizes torque and driving stresses from the upper and lower springs when power is applied. This rear-spring construction assures greater ability to absorb the enormous torque and driving stresses of the rear axle, provides improved cushioning for chassis and load, and makes possible the use of dual tires as large as 11.25-24 or 44x10 heavy-duty type and an overall width on the road within 96 inches.

The rear axles are of the full-floating, double-reduction type with spiral-bevel gears in the first reduction and herringbone gears for the second reduction. Both new models are equipped with four-wheel service brakes. The front-wheel brakes are of the internal-expanding, self-energizing, shoe type with a vacuum-operated booster. The rear-wheel brakes are of the internal-expanding, wrap-band type. With the exception of the door framing, the cab is entirely of steel.

MEN KNOWN *in* THE EQUIPMENT FIELD

Four members of the staff of the Taubman Supply Corp., Tulsa, have been assigned to new positions, according to H. P. Taubman, president. C. C. Crider,

C. C. Crider

William Sanders

F. L. Carmichael

V. W. Bailey

formerly purchasing agent and for 10 years associated with Taubman, is now secretary and manager. F. L. Carmichael, formerly district manager and with the company for four years, becomes vice president in charge of branches. William Sanders, for five years Taubman accountant, is made auditor and office manager. V. W. Bailey, formerly assistant purchasing agent, is now purchasing agent. Before joining the Taubman staff, Mr. Bailey was assistant purchasing agent for the Independent Oil & Gas Co. These changes were decided upon at the annual meeting of the company.

The Taubman company, which originally restricted its business to oil country pipe, has been enlarging its field and now acts as distributor for the Chapman Valve Co., Stockham Pipe & Fittings Co., Republic Steel Corp., and Pittsburgh Steel Products Co.

FRICK-REID ENTERS CALIFORNIA

The Frick-Reid Supply Corp. has opened offices at 555 South Flower Street, Los Angeles. This company, whose executive offices are in Pittsburgh, Pa., with general offices in Tulsa, has been a heavy purchaser of California equipment for service in the Mid-Continent and eastern fields. Frick-Reid is entering California as distributor of Jones & Laughlin oil country tubular goods, with complete stocks of seamless material at Wilmington Harbor. The yard, at this point, was formerly operated by the Baash-Ross Tool Co.

H. H. Clark, who is with this organization, was formerly with the Baash-Ross company. R. J. Macon, formerly in the Frick-Reid credit department in Tulsa, will be in charge of the Los Angeles office as assistant credit manager.

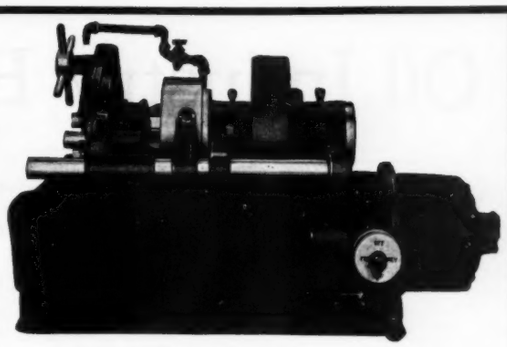
THERE ARE NO WEAK SPOTS—

—when "TOLEDOS" are used on piping jobs. Fittings hug the smooth, long-tapered, perfect threads cut by "TOLEDO" pipe tools and pipe machines so tight that leak-proof jobs result.

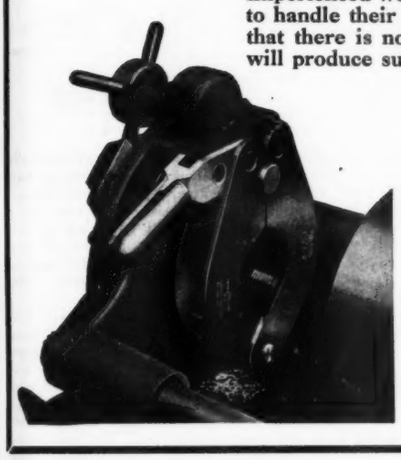
"TOLEDO-MADE" connections are the tightest part of any piping job and will stay tight through years of trouble-free service. Air pounding and vibration have no effect on them.

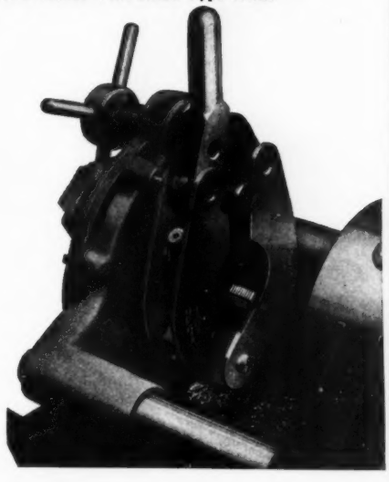
Not only strength and durability but economy in piping erection is obtained with "TOLEDOS." A tight leak-proof connection is made in a fraction of time required by any other method. No other method offers such speed or satisfaction in the handling of piping jobs.

Experienced workmen depend upon "TOLEDO" equipment to handle their piping jobs, for they know from experience that there is no other equipment on the market today that will produce such satisfactory results.



The "TOLEDO" No. 999—⅛ to 2 in. Portable Power Pipe Machine. The efficiency of this machine can be increased by using "TOLEDO" quick-opening Die Heads with Rake Type Dies.





THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO

Here's the new "TOLEDO" Quick-Opening Die Heads for "TOLEDO" No. 999 and No. 1000M ⅛ to 2 in. Power Pipe Machines. Lift the handle, and the dies open up. Instantly pulled off the thread. Faster, more efficient, and perfect threads.

"TOLEDO"
QUICK THREADS
Life-Time Connections

B-M-W PRODUCTS for pumping wells

The KEY to LOWER LIFTING COSTS

CORRECTLY DESIGNED • • ECONOMICALLY PRODUCED REASONABLY PRICED

We don't make all of the Balls and Seats but we do make the Best Ones!

Any producer who has used B-M-W BALLS & SEATS will testify to the above—we exercise every care in the selection of materials, in the workmanship of our Balls and Seats—and there is a B-M-W Ball & Seat to fill every pumping requirement.

B-M-W Chromard

—Stainless Steel—non-corrosive—stands up under cutting action of floating sand.

B-M-W Bramo

—General purpose ball and seat—high grade tool steel—moderate in price.

B-M-W Extrard Bronze

—Extremely hard bronze alloy—will perform where lodestone and corrosive elements are present.

B-M-W Bi-Meta

—Chromard Seat and Extrard Bronze Ball—for use where lodestone and floating sand are present.

BRADFORD MOTOR WORKS INC.

OIL WELL SUPPLIES

BRADFORD, PA. TULSA, OKLA.

EXPORT OFFICE—30 CHURCH ST.—NEW YORK CITY

V-port VALVE

FOR quiet operation at all times when demands are fluctuating, for sure and exact regulation under light loads as well as heavy, a Vigilant Liquid Level Regulator with V-port Valve is recommended. Wide-open, it has a capacity equal to that of the pipe. When flow is at minimum, the distance between valve and seat is still enough to assure free action.

Vigilant

There is a C-F regulator exactly suited to every requirement of gas control. Well known for more than 40 years. Catalog on request.

The Chaplin-Fulton Mfg. Company

28-40 Penn Ave. Pittsburgh, Pa.

CF

REPRESENTATIVES:

WESTCOTT & GREIS, Inc., Sales and Service, Dallas—Tulsa

C. H. COLLINS, 628 Dwight Bldg., Kansas City, Mo.

HIMELBLAU, AGAZIM & CO., 30 N. Dearborn St., Chicago, Ill.

Or Any Jobber

Oil Industry Equipment and Supplies

SEAL DESIGNED TO HOLD OIL AND KEEP OUT DIRT

Antifriction bearings have found so many new applications that the need for a seal which will not only hold grease but oil, and also keep out grit, dirt and water, has become increasingly real.

Moreover, the higher speeds in use and the need for more dependable yet economical lubrication have created an urgent demand for a really oil-tight seal that will hold in oil, keep out dirt while being an integral part of the design, yet self-contained and independent of the bearing. It is desirable that an oil seal should seal oil at low as well as high speeds, whether shafts are horizontal or vertical and should have a long life, cause low friction loss and in other ways "stay put." It is to meet these conditions that the Aetna oil seal has been placed upon the market by the Aetna Ball Bearing Manufacturing Co., Chicago.

The Aetna oil seal consists of only four parts, is a self-contained and complete unit which can be slipped in or out of position, with nothing to work loose or become lost. It consists of an outer shell of steel, accurately formed and ground on an outside diameter to a precision commensurate with that of antifriction bearings. This shell houses the seal cushion, pressure plate and steel retainer.

The thermo-pneumatic seal cushion consists of specially treated cork in which the interstices or air cells are hermetically sealed. This pneumatic seal cushion automatically expands and contracts laterally with changing temperature of shaft or lubricant, remaining always oiltight in consequence. It is nonhygroscopic and impervious, is of great resiliency, has a low friction coefficient and is abrasive-resistant. The deflector-pressure plate, of dense, specially treated fiber, deflects oil from the seal proper, serving to maintain a constant and steady pressure upon the pneumatic cushion and a uniform pressure over the entire periphery of the seal while relieving it of extraneous internal pressure. In this way the pneumatic seal is always maintained concentric with the shaft and is relieved of longitudinal pressure, so overcoming one common cause of leakage.

CATERPILLAR ANNOUNCES 65

The Caterpillar Tractor Co., Peoria, Ill., has announced addition of a new model, the Sixty-five, to its line of tractors. This is a step-up in size from the company's Sixty, well known in the oil fields.

NOTES ABOUT TRADE LITERATURE

"World's Deepest Cable-Tool Well" is among interesting articles in the current issue of the Hercules Record, published by A. Leschen & Sons Rope Co., St. Louis, Mo.

"Twelve Reasons Why You Save Money With Lay-Set Preformed Wire Rope" is the title of a booklet issued by the Hazard Wire Rope Co., Wilkesbarre, Pa. Copies are obtainable for the asking.

The Wagner Electric Corp., 6400 Plymouth Avenue, St. Louis, Mo., has issued a loose-leaf bulletin page on polyphase squirrel-cage motors. Anyone interested should ask for Bulletin 167, Part 7.

The Lebanon Steel Co., Lebanon, Pa., has prepared two bulletins on Circle "L" alloy steels, one telling of their wear resistance and suitability for high stresses and the other emphasizing their resistance to corrosion and heat.

Tools, forgings, wrenches and pipe tongs are described and illustrated in a 216-page catalog of convenient pocket size issued by J. H. Williams & Co., 75 Spring Street, New York.

A new catalog on electric weld line pipe and casing is being distributed by the Republic Steel Corp., Youngstown, Ohio. Its 36 pages contain much information of interest to engineers and to pipe line men generally.

The Metal & Thermit Corp., 120 Broadway, New York, is sending out a 12-page booklet which discusses Murex welding electrodes.

A folder telling about the new series of Key sectional stream line flow forged-steel return bend fittings of the unit tube type is being distributed by the Key Boiler Equipment Co., Inc., East St. Louis, Ill.

Two broadsides are being mailed by the Caterpillar Tractor Co., Peoria, Ill. One is entitled "Tractors to Back Up Contractors," and the other "Caterpillar Roads Are Good Roads."

The Mercon Regulator Co., 1 LaSalle Street, Chicago, has issued a new catalog covering its line of pressure and flow regulators and containing a description of the adjustable port feature and the liquid level controller line.

R. FUESS, INC., OFFICE IS OPENED IN NEW YORK

Interest attaches to the announcement that R. Fuess, Inc., for many years a leader in Germany in the development and manufacture of instruments for scientific research and industrial control, has established an American branch at 245 West Fifty-fifth Street, New York, in charge of Lewis Muscat.

The house of Rudolph Fuess, which has a worldwide reputation, was founded at a time when it was customary for a son to follow his father's vocation. Young Rudolph Fuess, after his university days in Gottingen, forsook the family vocation of paper-making and in 1865 established a workshop in Berlin where he began making optical instruments. With the cooperation of Rosenbusch he constructed the first polarization microscope. Other pioneering followed. The scope of work widened and Mr. Fuess collaborated with eminent scientists in the development of various precision instruments.

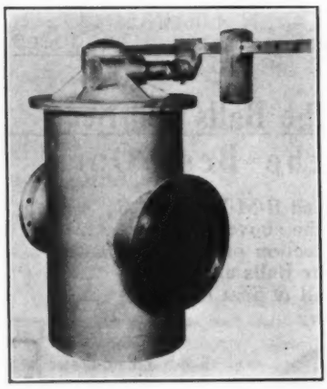
The institution, now headed by Paul Fuess, son of the founder, makes instruments for measuring the velocity, quantity and pressure of air and gases; for determining the molecular weight and relative specific weight of gases; for analysis of mixed gases; for testing porosity; for estimating the pressure, temperature and humidity of air; for observations of water level, etc. The works are in Berlin-Steglitz, Germany.

AGENT FOR TUBE-TURNS

The Pacific Pipe & Supply Co., Los Angeles, has been appointed jobber of tube-turns, the well-known stock fittings for pipe welding. Tube-turns are forged from seamless tubing, with no thinning of outside walls, buckling of inside walls or flattening of cross-section. With the recent addition of the series I-R, made on a radius of one time the pipe diameter, tube-turns are now available in 45° and 90° elbows and 180° return type fittings for welding in sizes of three-quarter inch through 20-inch and in virtually all weights required by modern piping.

B., S. & B. BUILD BIG GAS REGULATOR VALVES

Another unusual piece of equipment for the oil industry has been developed in the American Tank & Equipment Corp. plant,



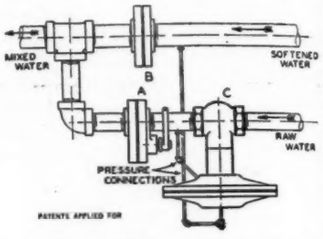
Oklahoma City, manufacturing subsidiary of Black, Sivalls & Bryson, Inc., of Bartlesville, Okla. This is a 14-inch gas valve of the balanced type for use on the gas discharge line of oil and gas separators. The valve was put into service on the Marshall Oil Co.'s No. 1 Buxton well in the Oklahoma City Field December 14, 1931. It performed efficiently with the result that manufacture of four other valves of the same size and type was begun.

This valve handles the entire gas discharged from one of the big American oil and gas separators. It is said to be the largest partly balanced gas regulator valve of its type ever built for use in the oil industry. It is made entirely of steel plate, welded and machined in the Oklahoma City plant. One of these large gas valves now in process of manufacture will be used on a lease of the Phillips Petroleum Co. in the Oklahoma City Field.

WATER FOR THE BOILER PROPERLY PROPORTIONED

One of the conditions which jeopardize proper control of boiler water is that which exists when the raw and softened water are not at all times correctly proportioned.

The Elgin automatic proportioner placed on the market by the Elgin Soft-



ener Corp., Elgin, Ill., automatically maintains a definite proportion of raw and softened water, regardless of changes of quantities or pressures of raw water and treated supply. By changing the setting of a single calibrated valve, the proportion of raw to softened water may be easily and quickly varied over wide limits.

The equipment consists essentially of a calibrated valve (A) and a reducing valve (C) working upon the diaphragm principle, both connected in the raw water line. The functioning of the reducing valve is controlled by the pressure in the soft-water supply line and the pressure in the hard-water line. By employing orifices of the correct proportionate areas, A and B respectively, the desired proportion of flow may be readily obtained by the setting of a single special orifice valve; and the proportion holds regardless of changes in initial pressures or quantities. Except for the functioning of the reducing valve, there are no moving parts.

VALVE FOR REFINERIES IS THRUSTOR-OPERATED

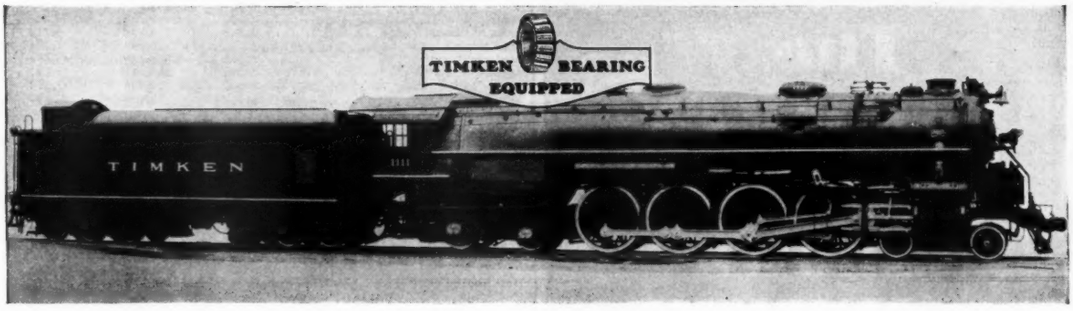
A new Thrustor-operated valve permitting centralized remote control of gases or liquids under pressure is announced by the General Electric Co. It is available in sizes ranging from 2 to 12 inches for from 125 to 600 pounds pressure per square inch, and is designed for oil refineries and general industrial use. The new valve may be installed readily in place of hand-operated valves.

In operation this self-contained power unit consists of a motor controlling an improved hydraulic cylinder, applies pressure to the valve to open or close it. A spring is used to return the valve to its original position.

The Thrustor is readily adjustable for rapidly or slowly opening valves. It is frequently desirable to close a valve rather slowly particularly where there is high pressure to give high velocity flow in pipe lines. This is accomplished by controlling the flow of oil from under the plunger by means of an external adjustment. By this means the valve can be made to close slowly without shock or hammer in the pipe line.

The Thrustor type valve is positive in opening and closing, since it is direct-connected, and requires less time than a motor valve to operate. In addition, no overload protection is necessary in the motor circuit since the Thrustor can go to the extreme limit of its travel without overloading the motor. No limit switches are necessary for controlling the opening or closing of the valve. Because of the small amount of current consumed a small relay may be used to handle the unit.

THE TIMKEN LOCOMOTIVE



100,000 miles without bearing trouble

A revolutionary accomplishment in locomotive operation

Again Timken has successfully pioneered a great forward step in anti-frictionization, and as a result, another important chapter has been added to the history of railroad development.

The Timken Locomotive was the first locomotive in the world to be completely equipped with anti-friction bearings on all axles—leading truck, driving wheels, trailer truck and tender trucks.

It was built by Timken to demonstrate the advantages of Timken Bearings in locomotive operation, and was placed in service on April 15, 1930. In January this year, the Timken Locomotive completed its official service test of 100,000 miles. This mileage was made on 14 railroads in regular passenger and freight service, and under every conceivable running condition.

Tough as locomotive operation is on bearings, the Timken Bearings in the Timken Locomotive have given no trouble whatever. No bearing repairs or replacements have been made.

Railroad master mechanics and engine foremen know what this remarkable performance means. They will tell you of the tremendous savings it will effect in locomotive maintenance . . . the dependability it assures.

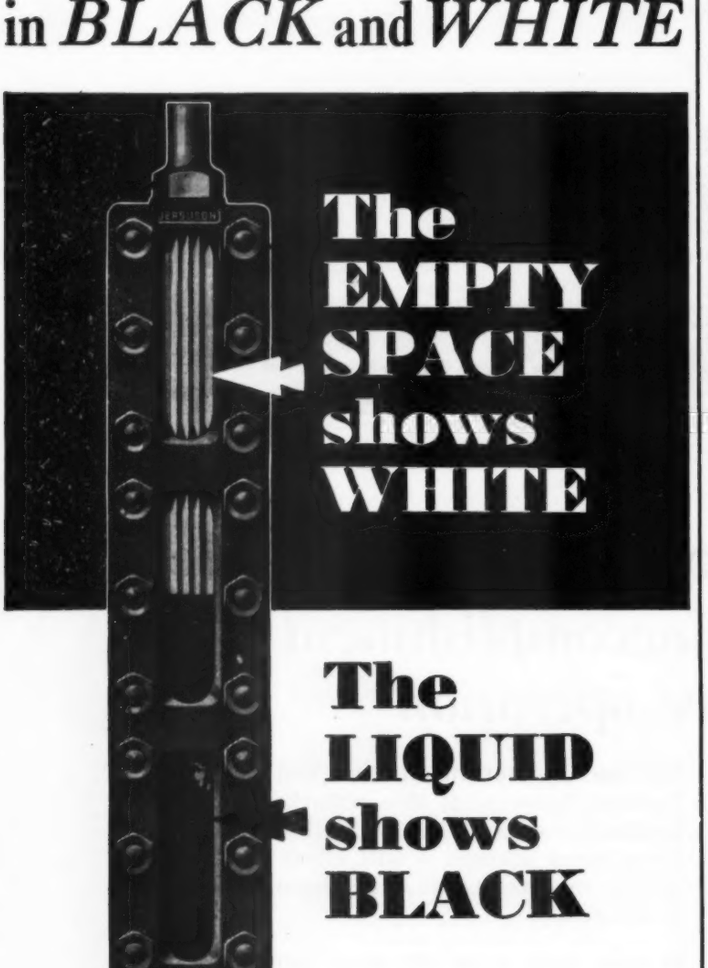
It may seem a far cry from locomotives to oil field machinery, but the same exclusive combination that has enabled Timken Bearings to do what had never been done before in all railroad experience, assures more economical operation; greater dependability; lower maintenance costs and longer life for rig fronts; rotaries; gas and steam engines; oil well hooks and swivels; pumping powers; and all other types of equipment.

That combination is Timken tapered construction; Timken positively aligned rolls; and Timken-made steel—the combination that eliminates friction and carries all radial, thrust and combined loads at the same time. It will pay you to specify Timken-equipped.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* BEARINGS

This gage shows in *BLACK* and *WHITE*



JERGUSON REFLEX GAGE

Shows oil level with the full visibility of black on white. Leading oil companies are using it on tanks, towers, stills, etc.

For 25 years these gages have demonstrated safety under highest pressures and temperatures. We furnish them with or without valves for every type of service. Write us for information.

JERGUSON GAGE & VALVE CO.
MYSTIC AVE. AND NORTHERN ARTERY
SOMERVILLE, MASS.

SUMMARY OF CALIFORNIA OIL FIELD OPERATIONS FOR JANUARY

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for January amounted to 15,532,141 bbls., an average of 501,037 bbls. per day. This is a decrease of 930 bbls. per day under December production.

Total stocks of crude and all products in Pacific Coast territory increased during the month 608,105 bbls. The total stocks at the end of the month were 170,444,054 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

Group No. 1—	Barrels per month	Daily average Jan., 1932	Dec., 1931	Jan., 1931
Coalinga	226,360	7,302	7,367	8,889
Elk Hills	392,510	12,662	12,704	14,808
Fruitvale	111,545	3,598	3,222	3,071
Kern River	304,867	9,834	9,719	10,823
Kettleman Hills	1,868,225	60,265	59,710	22,293
Lost Hills-Belridge	301,290	9,719	9,223	6,469
McKittrick	52,740	1,734	1,773	3,706
Midway-Sunset	1,508,710	48,668	49,935	53,251
Mount Poso	253,918	8,191	8,390	7,600
Round Mountain	39,630	1,278	1,511	328
Wheeler Ridge	16,450	531	521	556
Group No. 2—				
Capitan	.....	.....	.....	1,016
Elwood	509,331	16,430	19,633	32,969
Rincon	50,530	1,630	1,603	2,352
San Miguelito	10,604	342	511	.....
Santa Barbara	9,700	313	179	231
Santa Maria	78,474	2,532	2,546	2,508
Summerland	3,359	108	116	264
Ventura Avenue	1,252,006	40,387	40,657	43,469
Ventura-Newhall	110,842	3,559	3,845	4,152
Watsonville	1,937	62	61	62
Group No. 3—				
Coyote	301,053	9,712	10,123	9,849
Dominguez	469,179	15,135	12,879	9,892
Fullerton (Brea Olinda)	278,651	8,989	9,474	10,634
Huntington Beach	685,875	22,125	23,283	22,802
Inglewood	426,609	13,762	13,716	15,448
Lawndale	7,283	235	304	323
Long Beach	2,414,539	77,888	76,301	92,816
Los Angeles-Salt Lake	36,128	1,165	1,104	1,414
Montebello	193,281	6,235	6,472	6,955
Newport	684	22	16	40
Playa Del Rey	625,639	20,182	21,382	35,589
Potrero	30,744	992	1,101	1,086
Richfield	200,233	6,459	6,605	6,820
Rosecrans	96,386	3,109	3,159	4,533
Santa Fe Springs	2,024,056	65,292	63,552	71,694
Seal Beach	412,163	13,296	13,153	16,828
Torrance	193,060	6,228	6,069	5,869
Whittier	33,050	1,066	1,048	1,388
Total January	15,532,141	501,037	501,967	531,798
Total December	15,560,984	501,967		
Decrease	28,843	930		

TOTAL STOCKS HELD BY CALIFORNIA OIL COMPANIES, BOTH INSIDE AND OUTSIDE THE UNITED STATES

	Jan. 31, 1932	Dec. 31, 1931	Jan. stock increases	Jan. 31, 1931
Heavy crude and all grades of fuel, gas and Diesel oils	§8,914,561	99,301,196	†386,635	104,914,304
Refinable crude	42,302,110	41,895,200	406,910	43,069,769
Finished gasoline, engine distillate and natural gasoline	16,621,657	15,820,753	800,904	18,240,377
Crude gasoline and naphtha distillates	4,353,539	4,105,131	248,408	3,275,982
All other stocks	*8,252,187	‡8,713,669	†461,482	§10,031,457
Total all stocks	170,444,054	169,835,949	608,105	179,531,880

†Increase. Barrels of coke included *636,449 ‡630,113 §720,778

OIL FIELD DEVELOPMENT

Group No. 1—	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells— Drillers	Abd. wells— Producers
Coalinga	0	0	0	0	625	0	0
Elk Hills	0	0	0	0	295	0	1
Fruitvale	3	4	1	555	22	0	0
Kern River	1	0	0	0	905	0	0
Kettleman Hills	0	12	1	1,610	24	0	0
Lost Hills-Belridge	0	2	0	0	109	0	0
McKittrick	1	2	0	0	121	0	0
Midway-Sunset	0	1	0	0	1,725	0	3
Mount Poso	0	0	0	0	72	0	0
Round Mountain	1	2	1	395	8	0	0
Wheeler Ridge	0	0	0	0	33	0	0
Group No. 2—							
Capitan	0	0	0	0	0	0	0
Elwood	0	0	1	380	42	0	0
Rincon	0	0	0	0	33	0	0
San Miguelito	0	0	0	0	2	0	0
Santa Barbara	0	0	1	146	4	0	0
Santa Maria	0	1	0	0	167	1	0
Summerland	0	0	0	0	62	0	0
Ventura Avenue	1	6	0	0	143	0	0
Ventura-Newhall	0	3	1	15	111	3	0
Watsonville	0	0	0	0	6	0	0
Group No. 3—							
Coyote	0	4	0	0	159	0	2
Dominguez	3	2	1	4,595	54	0	0
Fullerton	0	1	0	0	356	0	0
Huntington Beach	0	1	0	0	347	0	0
Inglewood	0	2	1	205	208	0	0
Lawndale	0	1	0	0	7	0	0
Long Beach	1	10	6	713	891	4	4
Los Angeles-Salt Lake	0	0	0	0	259	0	0
Montebello	0	1	0	0	172	0	0
Newport	0	1	0	0	2	0	0
Playa Del Rey	0	2	1	140	176	2	2
Potrero	0	3	0	0	11	0	0
Richfield	0	1	0	0	136	0	0
Rosecrans	0	0	0	0	64	0	2
Santa Fe Springs	1	0	0	0	443	1	2
Seal Beach	0	1	0	0	107	0	2
Torrance	0	0	1	35	355	0	1
Whittier	0	0	0	0	170	0	0
Miscellaneous drilling	2	53	0	0	0	9	9
Group No. 4—							
Buttonwillow gas field	0	3	0	0	1	0	0
Dudley Ridge gas field	0	3	0	0	2	0	0
Goleta gas field	1	2	0	0	2	0	0
Total January	15	124	16	8,789	8,727	20	19
Total December	18	132	9	3,906	8,612	36	9
Increase	*3	*8	7	4,883	115	*16	10
Average for year 1931	22	207	21	30,370	8,911	20	15
Average for year 1930	80	434	63	48,710	9,632	21	27
Average for year 1929	109	610	76	100,625	10,550	26	18

*Decrease.

DEVICE CONTROLS FLOW AT BOTTOM OF THE HOLE

By C. P. Parsons
Halliburton Oil Well Cementing Co.

Installation of a bottom-hole flow control device in an East Texas well has stirred interest and the results obtainable are being watched by oil producers. The device, an invention of Erle P. Halliburton, consists primarily of a stopcocking element similar to that used in the Halliburton formation tester, an expanding packer and a perforated anchor; a pair of check valves located between the stopcock and the packer regulate a specially balanced pressure relation between the spaces inside and outside of the tubing.

The device is run into a well on tubing and makes it possible to open and close the well at the bottom of the hole. In this way the energy of the formation is immediately and directly controlled at its source. The stopcock is closed or opened by turning the tubing a quarter of a turn to the right or left. The packer element, located just below the stopcocking device, consists of a series of rings of oil-resisting composition that will form a tight seat against the casing when a portion of the weight of the tubing is resting on the packer. Between the stopcocking device and the packer are a pair of check valves. One of these allows a one-way flow from the inside of the tubing into the annular space between the tubing and the casing. The other, set at a higher desired tension, allows a one-way flow from the annular space behind the tubing into the space inside the tubing. The difference in tension between these two check valves affords a desirable balance between the pressures inside and outside of tubing.

Below the packer is a 3-inch perforated anchor pipe. At the top of the well a bradenhead is used with special packing rings to pack off the tubing, and the tubing is supported by a ball-bearing tubing support equipped with spider and slips. A swivel joint is installed on top of the tubing. The stopcocking device at the bottom of the well has a three-fourths-inch opening and is so constructed that a high-velocity viscous flow of oil is directed through the valve without striking it, preventing cutting out of the valve.

The device may be run in the well in a closed position before the well is brought in. Then when it is desired to bring the well in it will not be necessary to bail or swab, as the stopcock may be opened, allowing a ready release of the energy in the well.

The chief advantages of this bottom hole flow control lie in the proper utilization and conservation of the natural energy in the formation. In a well under proration it reduces the burden on the sand. Gas in solution is kept that way until the moment it can be most efficiently used for lifting purposes. The three-fourths-inch stopcock also serves to function as a bottom-hole choke. After the well is allowed to flow the desired length of time the stopcock is closed. The tubing, being open to atmosphere at the top, will practically clean itself, which means that no kicking off will be necessary the next time the well is opened to allow it to flow. The check valves allow a desirable relation of pressures in the space above the packer, as well as a reservoir of energy and oil behind the tubing.

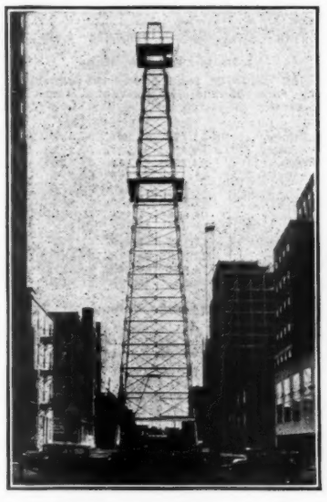
It is asserted that the method provides the maximum use of energy in a well, no gas being permitted to escape from the well without bringing up through the tubing its prorata share of oil.

NEW MEXICO WINS SUIT

DENVER, Colo., Mar. 5.—Judge Colin Neblett, of the U. S. District Court at Santa Fe, N. Mex., decided that the state land board had the right to reserve minerals on state lands sold prior to the enactment of legislation giving the board specific authority to make said reservations. The decision was in a suit brought a year ago by Will N. Terry and Ora B. Terry to oust the Midwest Refining Co. (Standard of Indiana), from certain land in the Hobbs oil pool which it held under lease from the State, but to which the surface rights were owned by the plaintiffs. Similar suits were filed by landowners on other leases held by the Humble Oil & Refining Co., the Ohio Oil Co., the Gypsy Oil Co., the Amerada Petroleum Corp., the Standard Oil Co. of California, and others. The Midwest action was accepted as a test case and the litigation involves 185,000 acres, some of which is in the Hobbs, Jal and other pools where oil and gas have been developed.

OIL RIG TOWERS AMONG CITY'S TALL BUILDINGS

The rig shown here towering among high business buildings of North Robinson Street, Oklahoma City, Okla., one of



the principal thoroughfares of that city, was built by the A. H. Kasishke Rig Building Co., Tulsa. The job, sponsored by the Junior Chamber of Commerce and designed for exhibition purposes only, has stirred interested comment.

TEXAS PIPE LINE PERSONNEL

WICHITA FALLS, Tex., Mar. 5.—Consolidation of the Ranger and Wichita Falls districts of the Texas Pipe Line Co., under the supervision of O. D. Burden, superintendent, who is stationed at Wichita Falls, was announced here.

E. E. Weller, chief clerk in the Fort Worth offices of the Texas Pipe Line Co., is to be transferred to Wichita Falls, where he will fill the vacancy caused by the death of W. E. Hunter. J. B. Haden of the Fort Worth office is to serve in an advisory capacity. H. J. Basham, assistant to Mr. Burden, is to have supervision of the company's pipe line work in the Panhandle.

The districts consolidated by the Texas Pipe Line Co. consist of 26 counties in Central West Texas, the Panhandle and the Wichita Falls region.

PECOS SUIT APPEALED

AUSTIN, Tex., Mar. 5.—Judgment was entered by District Judge W. F. Robertson in Atty. Gen. James V. Allred's land title suit against heirs of R. B. Whiteside and others, in which approximately $3,000,000 of permanent school funds are tied up in escrow pending final disposition. Decision was rendered last week in favor of the State, involving oil lands in Pecos County. Notice of appeal was given by the Douglas Oil Co. A period of 50 days was allowed by Judge Robertson for the filing of exceptions.

Mr. Allred pointed out that private parties have large interests involved in the appeal. The Humble Pipe Line Co. alone, he was informed, holds in escrow $25,000,000 due as royalty to various landowners involved in the litigation, and other companies hold large sums, the recipients to be determined by the final court decree.

DON'T TAKE A CHANCE
Specify PAGE HI-TENSILE ELECTRODES

THESE 4 ADVANTAGES MEAN BETTER WELDING AT LESS COST!

HIGH TENSILE STRENGTH
Tensile strength from 65,000 to 75,000 pounds per square inch. Elongation over 30%.

MOISTURE-PROOF COATING
Page Hi-Tensile Electrodes need no drying or baking before using because their coatings are moisture-proof. They are not affected by atmospheric conditions, and good welding qualities are always assured.

LOW SPATTER LOSSES
Spatter losses of Page Hi-Tensile Electrodes during welding average from 3% to 4% of weight. Compare these low figures with spatter losses of as high as 25% in tests of other electrodes.

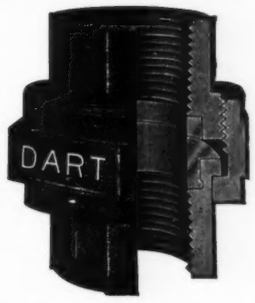
HIGH SPEED
Page Hi-Tensile Electrodes deposit rapidly when used with either regular or reversed polarity.

We recommend your investigation of these new modern electrodes. Samples and literature will go forward to you at once on receipt of your request. Our engineering department will be glad to cooperate. No obligation whatever.

PAGE STEEL and WIRE COMPANY
General Sales Office: 701 American Bank Building, Pittsburgh, Pa.
District Sales Offices:
Atlanta, Chicago, New York, Pittsburgh, San Francisco.
An Associate Company of the American Chain Company, Inc.
Canadian Distributor and Manufacturer:
Frost Steel and Wire Co., Limited,
Hamilton, Ontario.

PAGE-ARMCO PROCESSED WELDING WIRE & ELECTRODES

DART UNIONS and FLANGES
Two Bronze Seats
May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."



E. M. Dart Mfg. Co., Providence, R. I.
The Fairbanks Co.,—Distributors

FENWICK-REDDAWAY MFG CO.
NEWARK, NEW JERSEY
IWANA
HAIR BELT

Will outwear and stand more hard use and abuse than any other make of BELTING.

Manufactured by
Fenwick-Reddaway Mfg. Co.
Newark, N. J.
Stocks Carried at
NICHOLS TRANSFER & STORAGE CO.
1 North Boulder Tulsa, Okla.
Phone 2-1117

Always Renew Your Subscription Promptly

PATENTS Write for Free Book
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., Washington, D. C.
1551 Scientific American Building,
24 West 40th Street, New York City
1303 Tower Building, Chicago, Ill.
686 Hobart Building, San Francisco, Calif.
511 Van Nuys Bldg., Los Angeles, Calif.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Report for Month of December

RUNS

	Month bbls.	Daily av. bbls.
Prairie P. L. Co.*	697,500	22,500
Gulf P. L. Co.	1,965,109	63,391
Texas P. L. Co.	748,985	24,161
Magnolia P. L. Co.	1,734,760	55,960
Empire P. L. Co.	2,468,143	79,618
Cosden P. L. Co.	682,211	22,007
Stanolind P. L. Co.*	3,193,000	103,000
Oklahoma P. L. Co.	2,316,497	74,726
Other lines*	5,990,750	193,250
Total December	19,796,955	638,611
Total November	19,562,416	652,080
Difference	234,539	13,469

SHIPMENTS

Prairie P. L. Co.	2,382,895	76,868
Gulf P. L. Co.	2,047,205	66,039
Texas P. L. Co.	584,385	18,851
Magnolia P. L. Co.	1,290,374	41,625
Empire P. L. Co.	1,515,327	48,882
Cosden P. L. Co.	802,576	25,890
Stanolind P. L. Co.	3,557,622	114,762
Oklahoma P. L. Co.	2,400,708	77,442
Other lines*	4,774,000	154,000
Total December	19,355,129	624,359
Total November	19,829,044	660,935
Difference	473,915	36,626

STOCKS

	Bbls.
Prairie O. & G. Co.*	35,211,000
Gulf P. L.-Gypsy Oil Co.	7,988,187
The Texas Company	3,328,694
Magnolia Petroleum Co.	7,779,567
Empire P. L. Co.	4,589,901
Mid-Continent Pet. Corp.	3,332,582
Stanolind Crude Oil Pur. Co.*	16,583,000
Oklahoma P. L. Co.	1,302,734
Carter Oil Co.	6,494,184
Other lines*	15,463,000
Total December	102,072,255
Total November	100,025,383
Difference	2,046,872

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF JANUARY

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for December and January:

	Dec.,'31	Jan.,'32
Nat. Transit	134,728.53	132,346.98
S. W. Pa. P. L.	78,639.10	64,883.40
Eureka P. L.	304,834.50	264,733.46
Buckeye P. L. (Macksburg)	276,673.59	231,436.17
Buckeye P. L. (Cleveland)	12,125.02	12,765.55
Buckeye P. L. (Lima, etc.)	77,185.73	70,902.02
Indiana P. L.	2,581.64	2,957.69
N. Y. Transit	42,593.82	42,434.50
Tide Water P. L.	24,880.76	21,527.15
Pure Oil	350,431.59	343,184.55
Stoll Oil Ref.	36,806.03	61,955.78
Bradford Tran.	422,865.63	409,404.66
Total	1,916,885.32	1,658,531.92
Daily average	61,835.03	53,501.03

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

	Dec.,'31	Jan.,'32
Nat. Transit	554,540.59	546,544.24
S. W. Pa. P. L.	426,018.53	327,706.71
Eureka P. L.	318,074.34	266,906.78
Buckeye P. L. (Macksburg)	233,257.65	247,543.60
Buckeye P. L. (Cleveland)	1,709.74	1,710.80
Buckeye P. L. (Lima, etc.)	1,578,295.69	1,483,164.35
Indiana P. L.	738,240.58	720,776.96
Southern P. L.	61,182.44	45,091.84
N. Y. Transit	176,524.14	160,691.41
Northern P. L.	134,129.64	167,659.81
Tide Water P. L.	272,501.01	582,162.04
Pure Oil	190,150.36	322,591.72
Bradford Tran.	448,373.68	604,570.61
Tuscarora	330,473.61	305,988.46
Total	5,463,472.00	5,783,109.33
Daily average	175,241.03	186,551.91

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of December and January:

	Dec.,'31	Jan.,'32
Nat. Transit	647,268.73	708,300.22
S. W. Pa. P. L.	484,609.86	452,222.36
Eureka P. L.	1,205,561.50	1,218,191.97
Buckeye P. L. (Macksburg)	298,989.13	265,000.88
Buckeye P. L. (Cleveland)	45,401.41	38,126.48
Buckeye P. L. (Lima, etc.)	2,890,304.17	2,936,849.21
Indiana P. L.	543,883.89	520,692.84
Cumberland P. L.	64,500.81	64,500.81
Southern P. L.	229,411.72	258,415.23
N. Y. Transit	145,567.39	198,406.61
Northern P. L.	314,690.06	334,194.85
Tide Water P. L.	1,107,832.07	974,418.25
Pure Oil	803,723.79	887,230.61
Tuscarora	10,793.98	10,920.81
Bradford Tran.	326,488.02	156,443.22
Total	9,119,032.53	9,023,914.45
Decrease		95,118.08

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of December and January, showing gross stocks of the above fields:

	Dec.,'31	Jan.,'32
Pennsylvania	3,289,870.05	3,219,630.21
Lima	598,134.96	602,805.09
Kentucky	74,898.32	74,908.32
Mid-Continent	4,422,734.01	4,306,150.37
Michigan	733,395.19	820,420.46
Total	9,119,032.53	9,023,914.45

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1929	1930	1931	1932
January	51,749	75,907	53,939	53,501
February	51,833	79,256	55,163	.....
March	54,252	76,688	54,331	.....
April	58,444	84,536	54,914	.....
May	59,902	70,546	53,344	.....
June	58,833	75,430	54,110	.....
July	66,087	68,921	50,723	.....
August	66,087	54,291	51,503	.....
September	67,315	56,595	61,345	.....
October	76,093	58,179	65,595	.....
November	74,831	52,332	59,819	.....
December	74,561	53,999	61,835	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1929	1930	1931	1932
January	165,721	217,623	175,369	186,551
February	159,387	224,355	183,494	.....
March	161,474	228,846	189,508	.....
April	169,737	241,845	191,450	.....
May	184,281	246,383	199,247	.....
June	185,404	234,401	221,155	.....
July	194,763	207,094	211,632	.....
August	194,946	205,506	224,166	.....
September	201,214	193,999	217,537	.....
October	191,367	157,675	210,831	.....
November	202,743	146,638	196,425	.....
December	186,257	143,001	176,241	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1930	1931	1932
January	12,220,045	11,831,092	9,023,914
February	12,991,561	11,506,489	.....
March	13,247,217	11,012,162	.....
April	13,233,961	11,044,481	.....
May	13,052,953	10,728,239	.....
June	13,396,855	9,903,349	.....
July	13,268,562	9,569,849	.....
August	13,047,051	9,192,457	.....
September	12,812,018	8,492,431	.....
October	12,437,553	8,417,694	.....
November	11,851,380	8,830,386	.....
December	11,751,952	9,119,032	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Feb. 1	484,419.77
Runs from wells	476,649.97
Regular deliveries	224,331.04
Other deliveries	200,937.11

The amount of Illinois oil run by the Tide Water Pipe Co. in January was 21,527.15 bbls. Deliveries were 22,303.06 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1932—	Runs	Deliveries
January	500,177.12	246,634.10
1931—		
January	468,429.04	669,573.19
February	429,284.54	461,262.85
March	424,638.23	356,663.26
April	421,814.98	282,532.65
May	433,231.80	322,513.95
June	510,805.78	320,258.13
July	520,009.38	289,219.05
August	476,623.56	393,231.06
September	492,183.83	323,012.59
October	498,124.13	325,834.95
November	470,302.63	281,258.48
December	515,771.28	306,623.19
1930		
January	543,387.95	498,293.93
February	548,416.33	414,536.59
March	631,944.49	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,069.84
June	572,662.57	466,658.81
July	604,529.54	388,454.47
August	594,642.12	375,742.43
September	457,001.11	371,691.62
October	478,442.12	320,688.72
November	422,794.68	355,403.12
December	556,418.78	363,719.55

Tide Water Pipe Co., Ltd., also delivered in January 293,024.35 bbls. Oklahoma oil.

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1931—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
January	17,612	13,519	154,225	32,902	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,250
March	27,645	18,935	141,160	26,290	21,129	238,161	4,065	2,580	.....	1,968	8,613	246,774
April	25,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	.....	2,000	.....	.....	2,000	200,065
June	30,067	10,833	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800
July	26,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	.....	18,516	211,903
August	32,613	15,581	91,742	23,387	25,741	188,064	4,161	2,516	.....	3,162	9,839	197,903
September	27,067	7,267	106,867	20,099	22,967	184,267	4,833	8,333	.....	.....	13,166	197,433
October	53,710	14,484	100,774	26,742	40,645	236,355	6,097	6,871	2,097	1,838	16,903	253,258
November	48,033	28,800	51,667	28,600	12,967	170,067	3,933	10,833	3,033	1,367	19,166	189,233
December	20,258	16,806	121,807	31,645	34,258	224,774	1,968	4,355	.....	.....	6,323	231,097

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1931—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
January	8,387	6,613	21,968	14,678	11,096	62,742	.....	.....	.....	.....	6,129	68,871
February	5,787	2,713	29,143	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,484
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	2,355	47,258
June	4,267	.....	25,100	6,233	3,500	39,200	.....	.....	.....	.....	.....	39,200
July	6,774	1,194	24,612	11,065	9,902	53,548	.....	.....	.....	.....	1,335	54,903
August	3,452	.....	16,419	7,419	4,290	31,580	.....	.....	.....	.....	968	32,548
September	4,267	3,667	12,933	4,699	7,367	32,933	.....	.....	.....	.....	4,000	36,933
October	2,355	1,129	19,290	16,709	9,323	48,806	.....	.....	.....	.....	3,323	52,129
November	1,000	.....	22,800	11,567	.....	35,367	.....	.....	.....	.....	3,366	38,733
December	3,161	.....	22,484	8,339	6,032	40,016	.....	.....	.....	.....	7,742	48,258

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1931—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
January:	Month	16,485,728	14,850,953	20,019,312	3,432,475	1,574,955	2,135,037	2,966,142	3,374,000	64,838,613
	Daily average	531,798	479,063	645,781	110,725	50,805	68,872	95,682	105,839	2,091,565
February:	Month	14,930,932	13,531,980	18,957,571	3,241,016	1,402,492	1,981,616	2,747,024	3,129,000	60,021,631
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,629
March:	Month	16,364,842	16,627,687	22,453,619	3,498,598	1,469,245	2,061,576	2,898,035	3,374,000	68,747,602
	Daily average	527,898	536,377	724,310	112,858	47,395	66,502	93,485	108,839	2,217,665
April:	Month	15,803,541	16,815,990	26,887,717	3,281,880	1,412,220	2,008,021	2,901,870	3,273,000	72,384,239
	Daily average	526,785	559,255	896,257	109,396	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,960	17,333,867	28,708,684	3,341,366	1,446,274	2,232,563	3,093,419	3,190,000	75,800,133
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	102,900	2,445,166
June:	Month	15,641,426	16,678,200	29,139,833	3,175,440	1,344,450	1,850,511	2,986,200	3,166,000	73,982,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,069
July:	Month	16,093,322	16,420,080	33,827,213	3,089,332	1,287,585	1,715,730	2,905,909	3,341,000	78,680,671
	Daily average	519,139	529,680	1,091,200	99,672	41,535	55,345	93,739	107,774	2,538,078
August:	Month	15,668,984	9,517,279	32,279,816	3,141,323	1,165,569	1,584,444	2,807,143	3,167,000	69,331,558
	Daily average	505,451	307,009	1,041,284	101,333	37,599	51,111	90,553	102,161	2,236,563
September:	Month	15,180,610	7,946,880	28,981,525	3,147,030	1,138,380	1,641,384	2,761,230	3,632,000	64,429,039
	Daily average	506,020	264,896	966,051	104,901	37,946	54,713	92,041	121,067	2,180,968
October:	Month	15,651,983	13,951,893	30,725,173	3,177,066	1,172,389	1,822,255	2,797,597	3,900,000	72,198,356
	Daily average	504,903	417,803	991,134	102,486	37,819	58,782	90,247	125,807	2,328,979
November:	Month	14,997,700	16,430,730	23,860,561	3,131,670	1,130,700	1,851,577	2,706,390	3,639,000	72,748,328
	Daily average	499,923	547,691	962,018	104,389	37,690	61,719	90,213	121,300	2,424,946
December:	Month	15,560,984	16,598,299	27,767,651	3,198,642	1,082,142	1,971,817	2,816,759	3,845,000	72,641,200
	Daily average	501,967	535,429	903,860	103,183	34,908	63,607	90,863	117,581	2,343,268
Total 12 months		188,329,032	175,703,843	328,503,575	38,956,338	15,626,407	22,856,536	34,392,713	40,330,000	845,803,464
Daily average		517,340	481,370	900,297	106,730	42,812	62,621	94,227	111,862	2,317,270